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STATE DOCUMENTS

A COURSE OF STUDY

FOR

The Secondary Schools of Montana

Issued by

The State Department of Public Instruction

Under the Direction of

Elizabeth Ireland

Superintendent of Public Instruction

1932

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1932

Helena, Montana,
June 1, 1932.

To the Members of the State Board of Education:

Governor J. E. Erickson, Helena
Attorney General L. A. Foot, Helena
W. M. Johnston, Billings
M. Murray, Glasgow
E. C. Carruth, Havre
W. S. Davidson, Bozeman
A. O. Gullidge, Baker
Frank Eliel, Dillon
Howard Toole, Missoula
William Meyer, Butte

Honorable Sirs:

For your approval, I have the honor and pleasure to present to you herein the curriculum for use in the Public Secondary Schools of the State.

Sincerely yours,

ELIZABETH IRELAND,

State Superintendent of Public
Instruction.

GEORGE WASHINGTON BICENTENNIAL
Pledge

As an American, I will follow the Example of George Washington in upright living, integrity, and in loyalty and service to my Country. I will strive "Never to say anything about a man that I have the slightest scruple of saying to him," and "Never to forfeit my word, nor break my promise made to anyone." In heart and mind, in word and deed, I will keep faith with Washington.

United States George Washington Bicentennial
Commission, Washington, D. C., 1932.

F

FOREWORD

In compliance with the statutory provisions of the Montana School Law, which provides that the State Superintendent of Public Instruction, together with the cooperation of such educators of the State as have been approved by the State Board of Education, shall prepare courses of study for the high schools and prescribe to what extent such courses shall be used, the following curriculum is submitted.

This publication is not intended to serve as a source book but as a guide to a reasonable conformity of aims, a fundamental organization of facts and a body of common culture desirable for all secondary schools. While it contains a great number of suggestions and much information, together with sources for material, this curriculum carefully avoids any appearance of prescribing any compulsory plan, procedure, or technique which must be followed that would in any way hinder, hamper, or restrict, the initiative of the progressive teacher or the forward looking plans or policies of any secondary school system.

Grateful acknowledgment is made to the staff in the office of the State Department of Public Instruction; to the educators of the State and to members of the faculty of the Greater University and Intermountain College, who served on the committees; to publishing companies for generously furnishing texts and other helps; and to courses of study from other states for valuable helps and suggestions. Special acknowledgment is given to William A. Chittick, Assistant High School Supervisor, who was in direct charge of curriculum construction for the secondary schools. Invaluable assistance was rendered by Alice A. Mattison and Ellen Nelson Colleran of the State Department of Public Instruction in putting the material in shape for the printer and in reading and correcting proof.

ELIZABETH IRELAND,
Superintendent of Public Instruction.

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Committees Assisting in the Preparation of the Course of Study for the Secondary Schools

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This Course of Study for the Secondary Schools of the State represents much time, hard work, the best thought, and conscientious, painstaking effort of many of the outstanding educators of the high schools and colleges of the State and the staff of the State Department of Public Instruction. The personnel of the committees was as follows:

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INTRODUCTION

The curriculum herein presented includes an offering of courses of study intended to cover the entire period of secondary school education, beginning with the ninth and extending through the twelfth grade. Those school systems having the eight-four plan of organization, will find the curriculum for the first eight grades in the course of study for the elementary schools. Those school systems having the six-three-three type of organization will find the curriculum for the first six grades in the course of study for the elementary schools, and the curriculum for the junior high school, which includes grades seven, eight, and nine, will be contained in the junior high school course of study which is in the process of being written. Those school systems having the type of organization known as the junior-senior or six-six plan, which makes the division between grades six and seven, will find the curriculum for the first six grades in the course of study for the elementary schools. The curriculum for the seventh to twelfth grades, inclusive, will be a combination of the courses of study for the junior and senior high schools.

COURSE OF STUDY

State of Montana

HIGH SCHOOL ENGLISH

Elizabeth Ireland
State Superintendent of Public Instruction
Helena

1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Composition and Literature, together with allied subjects, is being offered as a tentative program for the field of English in the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that the English Teachers and High School Principals send from time to time, as this course is used, suggestions for its improvement.

Grateful acknowledgment is made to Montana Educators, and to the English Committee in particular, for their kindly cooperation with the State Department of Public Instruction in formulating the subject matter contained herein. Valuable assistance was obtained from courses of study from other states and from new texts furnished by Publishing Companies.

Special acknowledgment is given to William A. Chittick, Assistant High School Supervisor, who was in direct charge of curriculum construction for the secondary schools. Invaluable assistance was rendered by Alice A. Mattison and Ellen Nelson Colleran of the State Department of Public Instruction in putting the material in shape for the printer and in reading and correcting proof.

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COURSE OF STUDY IN ENGLISH

PART ONE—GENERAL SUGGESTIONS

I. General Statement

Viewed in the light of the main objectives of education as formulated by the Commission on the Reorganization of Secondary Education, no subject taught in our schools today can more easily be justified than can English. Dr. Henry C. Morrison, in his publication, "The Practice of Teaching in the Secondary Schools," states that literature is one of the vehicles of transmission from generation to generation of those values which make civilized conduct and emotional sanity possible. Dr. Morrison also states that literature is one of the carriers of civilization; therefore, establishing vital contact with the great in literature is, before all else, part of the process of citizenship training.

The enormous increase of attendance in high school has made the high school population a much more heterogeneous company than it was formerly. Some of this company will go to college; many will immediately enter vocational callings; some will marry and become homemakers; and others will drift; but even though the stations occupied by these students after high school days vary greatly this is not incompatible with the desire to preserve a reasonable conformity of aims and a body of common culture. Transmission of conduct ideals, possession of literary forms of speech, including a wide, varied, and colorful vocabularly, range of metaphor, a great body of accumulated sense and wisdom of the race, skill in thinking and written expression, high ideals, healthy interests and appreciation of the beautiful, are attainments to be coveted for all. The major factor is to make sure that each pupil is permitted to enjoy and profit by the typical experiences that the English Course is particularly fitted to provide.

II. Point of View

It is a mistake to regard English as merely a formal subject. Such a view implies that skill in the use and interpretation of symbols is the sole end sought and that this may be attained by drills upon technique quite apart from interesting or valuable content. "The content of both composition and literature is, first of all, that body of fact, interpretation, and imaginative conception to be expressed; and second, that small body of principles of technique, the consciousness of which actually enables children and young people to improve their use of the vernacular."

English is a subject that cannot be finished by dint of intense application on essentials in the early years of high school, to be relegated thereafter to the place of an optional study. It is highly desirable that four years of English be required in the high school. The relation of language to the expanding life of the child is so close and intimate that to drop the systematic practice of speaking, writing, and reading at any point in the school program is like ceasing to exercise or to take food.

English as a training for efficiency should be distinguished from English as a training for the enjoyment of leisure. The careful and methodical arrangement of words and sentences with the aim of entire clearness and accuracy is an undertaking decidedly different from the writing of a travel sketch by a man of genius. The two are unlike in purpose and unlike in method of teaching. The former, all high school students should learn to accomplish because it is within the reach of almost anyone. The latter is possible only to the few, though the attempt to accomplish it has a certain value in developing appreciation on the part of all. The English course should be so arranged as to couple speaking and writing for practical purposes with reading of the same character, and speaking and writing for pleasure and inspiration with the study of the novelists, the playwrights, the poets.

English Course of Study, Utah.

III. Aims and Methods

Teachers of English have long realized the need for a well-defined course of study and uniform standards in their subject. The "Outline of English" prepared by the National Council of Teachers of English and adopted by the North Central Association of Colleges and Secondary Schools meets these requirements and can be adapted to the use of high schools of any size. The outline prepared by this committee is substantially as follows:

A. The high school course in English should be organized primarily with reference to basic personal and social needs.

B. English comprises two subjects, language-composition and literature-reading.

C. Though related, these involve radically different pedagogical methods. Hence in the course of study they should be separated. This does not mean, however, that literature is not to be used in the composition class. Effective expression is helped through the use of literary models and through constant insistence upon good, fluent, and accurate expression in all subject-matter classes, including those in literature. The separation of literature teaching from composition teaching makes possible the selection and use of the right materials and models.

D. The aim of composition teaching is to give the learner the power to communicate his ideas to others. Its subject-matter is the whole body of the pupil's ideas, emotions, and aspirations. Its medium is the English language. It therefore touches life everywhere and touches literature every time a pupil has an opinion to express orally or in writing, because literature furnishes models of expression.

E. Since it touches life everywhere, composition can be taught successfully only through the interest of English teachers in the writing and speaking of pupils in all subjects and through the supervision of all teachers in the oral and written reports of their own pupils.

F. Language-composition includes several subjects, among them being oral expression, grammar, rhetoric, written expression (which includes spelling, punctuation, and capitalization). It is best taught by the following cycle of processes:

1. Choice of a subject
2. The gathering of material
3. The organization of material
4. Oral composition
5. Written composition
6. Revision

G. The aim of literature-reading instruction is to develop in pupils the power to understand, feel, and appreciate the ideas, emotions, and aspirations of others. As the vehicle by which thought and feeling about subject-matter are transferred from mind to mind, it touches all content subjects.

H. Like composition, literature includes several subjects, among them being reading (both silent and oral), oral and written discussion, declamation, dramatization, dramatic presentation, and the history of literature.

I. The study of literature should create in pupils a desire to read and the habit of reading. It should be conducted so as to form in the learner well-defined tastes with regard to the type and the quality of his reading and so as to enable him independently to select books for his avocational or vocational reading. This means the provision in the classroom of many books of many types and the abandonment of that type of course of study which tries to satisfy these aims by the use of a very limited number of books. It does not mean that the intensive study of a few great books should be eliminated.

J. The individualization of instruction is of great importance. For example, children whose language habits are natively correct should be excused from drill lessons in grammar and other drill subjects. On the literature side this principle should operate so as greatly to increase the amount of independent reading.

K. To composition and literature, alternated by semesters or by shorter periods, should be assigned five recitations or conferences of 45 minutes a week, or an equivalent. General or home reading by individuals should be required. Proper emphasis should be placed both upon speaking and writing and upon oral and silent reading.

L. At the end of Grade VIII pupils should be able to do the following to be able to accomplish satisfactory work in the high school:

1. To express clearly and consecutively, either in speech or writing, ideas which are familiar
2. To avoid gross grammatical errors
3. To compose and address a letter
4. To spell their own vocabulary
5. To read silently and after one reading reproduce the substance of a simple story, news item, or letter
6. To read aloud readily and intelligently simple news items, lessons from textbooks, or literature, of such difficulty as "The Ride of Paul Revere" or Dickens' "Christmas Carol"
7. To quote accurately and understandingly several short poems, such as Bennett's "The Flag Goes By" and Emerson's "The Mountain and the Squirrel."

Building upon this foundation when it exists, and upon the actual attainments of pupils when it does not exist, there has been organized for the high schools of Montana a course of English to meet the aims and principles set forth above. The details of this course necessarily vary to some extent to satisfy the requirements of the different grades of intelligence.

IV. Administrative Problems

A. Separation of composition and literature

In the consideration of English as one of the high school subjects it is necessary to recognize that there are two separate phases, composition and literature; it is also necessary to realize that composition, oral and written, presents a two-fold problem. The teacher of English, therefore, is in reality a teacher of two different subjects, each presenting different aims and requiring different methods of attack. Each of these phases should continuously support the other, and their aims should merge into general aims as set up in this course.

This does not mean the entire separation of the two activities. It does mean that the emphasis during each period should be placed either on composition or on literature. In the period assigned to literature, the pupil should apply daily the principles of good usage which he has learned in the composition period; and he should also be given frequent practice in interpreting orally and in writing the thoughts of great writers, but not as a technical study. In the composition period he should read to find models for his own oral and written themes.

B. Semester plan

The committee when formulating this course of study in English followed the recommendations of the committee on Reorganization of English in Secondary Schools and the Inland Empire Report.

This course favors the semester plan for teaching literature and composition in grades nine, ten, and eleven. When this plan is used, during the composition semester the students must be kept in close touch with the literature for the corresponding year by means of definitely planned outside reading courses. Likewise, during the literature semester close coordination and correlation should be carried on with the composition for that year. In grade twelve a course in types of literature is recommended with composition to be gauged according to the needs and desires of the students.

1. **Objections by Montana teachers to semester plan**

   Consultation with a number of Montana teachers has brought out two general objections to the semester plan:

   a. A period of eighteen or twenty weeks of grammar, composition, and related subjects has a tendency to make students tire of their work and to cause them to regard English as a bore.

   b. In the larger high schools papers in the composition semesters become a heavy burden to the teacher.

   The first objection raises the query: If the objection is valid for English, why should not the teachers in other departments offer the same objection to entire semesters of algebra, chemistry, and like subjects? The latter objection is worth thinking about, but the committee recommends that semesters be so alternated that teachers will have some literature sections and some composition sections; the so-called "flunk" sections may also be fitted in to make a better distribution of the work.

2. **The Revision Committee is supporting the semester plan for the following reasons:**

   a. Composition and literature belong on different levels. Pupils can read Shakespeare, but nobody can write like him; hence the literary materials which are suitable for reading do not supply suitable models for composition. A mixed class is like a mixed train: it is slow; it is wasteful of time; it lacks that unity of purpose which is essential to success. A class in which literature and composition are segregated has in contrast the speed of a limited express. Adapted from North Central Quarterly, March, 1931.

   b. In composition it affords a unit of time long enough to direct and practice consecutively so that a nearer approach to mastery is attained.

   c. In literature it permits a continuity of subject matter which has a tendency to make the classics studied appear more important in the eyes of the younger students than they would if scattered through the year.

d. It insures greater accuracy in the grading of students' work because emphasis is centered upon a particular phase of their English.

e. In schools where a double system of grading—composition and literature—is used, it simplifies administrative work in keeping two records each semester and in the shifting of textbooks.

However, even though this committee formulating this English course recommends the separation of English into composition semesters and literature semesters for grades nine, ten, and eleven, the English teachers of Montana are not obligated to use this plan if they can secure more satisfactory results by means of the combination of composition and literature in the one semester. If the semester plan be not used, the various units of the course may easily be fused into other groupings. Nevertheless, the committee feels that definite units, four weeks or more in length, should be planned in order that some kind of a uniformity in covering general requirements may be attained. Students transferring from one high school to another in the State are handicapped by the wide differences found in English courses. Closer cooperation on the part of school executives and English teachers in Montana would eliminate most of this trouble.

V. Distribution of Time for Those Schools Not Using the Semester Plan

It would be difficult and unwise to prescribe the exact distribution of the time allotted to the teaching of English in the secondary school, among the different phases, but the committee after a considerable amount of investigation into contemporary practice and into Montana's immediate needs recommends that if the semester plan be not adopted those schools using the combination plan should follow rather closely the following distribution of time:

Ninth Year:	One-fifth to oral expression; two-fifths to written expression; two-fifths to reading and literature
Tenth Year:	One-fifth to oral expression; two-fifths to written expression; two-fifths to reading and literature
Eleventh Year:	One-fifth to oral expression; one-fifth to written expression; three-fifths to reading and literature
Twelfth Year:	One-fifth to oral expression; one-fifth to written expression; three-fifths to reading and literature

The above recommendation for distribution of time is based on the assumption that considerable ability in the use of oral and written expression will be developed by the students by the end of the tenth year and that a considerable amount of oral and written expression will be necessary in the study of reading and literature in the eleventh and twelfth years. Throughout the four high school years, the amount of time actually spent on expression, oral and written, and the amount spent on reading and literature will be about equally divided.

VI. Requirements in English

Under the standards established by the State Board of Education, three units of English are required for high school graduation and four units are strongly recommended. That this requirement is quite universally deemed advisable is evidenced by the fact that very rarely does one find a Montana high school which does not exceed the requirement by demanding four units of English credit of every graduate.

The report of the National Joint Committee on English reenforces the higher recommendation of the State Board of Education beyond the three units required, by stating that granting the possibility of great improvement in English instruction, the relation of language to the expanding life is so close and so intimate that to drop the systematic practice of speaking, writing, and reading at any point in the school program would be like ceasing to exercise or to take food.

The North Central Association report of 1922 expresses the opinion that to the study of English should be devoted not less than five units in grades seven to twelve with additional electives in grades eleven and twelve.

Of the forty states whose high school manuals have been published since 1920, sixteen require four units of English of every four-year high school graduate; twenty require three units of all graduates but make variously indicated recommendations for the fourth unit. The remaining four states require less than three units but recommend the higher number of units to be secured by all high school graduates.

VII. Individual Differences

Modern educational philosophy makes the individual child the basis of all teaching. Particularly in the field of English is there a recognition of the fact that high school students do not start on the same level, nor can they ever be brought to the same level of accomplishment. In practically no other field is the influence of environment so powerful. Some students come to the English class from homes of abundant books, in which the student is accustomed to see every member of the family reading a great deal and to hear frequent discussion of books; from other homes in which there is no tradition of reading; and from others still in which the elders are positively illiterate. No doubt some students inherit temperamental tendencies which manifest themselves as an inclination toward reading, while others do not. Occasionally a high school student is encountered who has literally never in his life read a book other than those assigned as school exercises. Adapted from the Practice of Teaching in the Secondary School—Morrison.

The first demand, then, of any satisfactory course of study in English is to make provision for individual differences. They must be taken care of by skillful teaching procedures as well as by an understanding of the materials to be taught. The class as a unit, viewed in the light of present school organization, must remain but time for laboratory work and individual conferences must be planned within the student's day. Individual corrective drill must be carried along with uniform class assignments.

VIII. Remedial Work

A part of each recitation should be used for corrective work. A short period each day may be more effective than one full period a week. The corrective work should follow a diagnostic test or a check up on oral and written compositions. When a particular error is observed in the work of a number of students, a class lesson should be given to it, and repeated class exercises should follow until it is generally eliminated. Where there are no funds to supply materials for drill and tests, the teacher can make her own with a fair degree of success.

Individual bookkeeping becomes an essential in this type of work, but the individual student can be trained to file his practice material and record his scores. The teacher must work out a satisfactory set of forms for such records. The right kind of equipment is necessary in handling work in this way. A file which will hold folders containing all the written work of each child should be the main feature of the equipment. Conferences with the student will be of value only when all the material is available. A card file should be used for charts or descriptions of individual work. The teacher's record of the student should give these facts: Diagnostic test, date given, results; conferences, dates given, summary of conference; practice material given, check-up tests, and results.

In many schools students who are habitually careless, or who show a decided lack of background for satisfactory English, or who are conscientious but weak, are placed in "zero" or "remedial" classes. These may be handled in such a way that the majority of students sent into them will regard the work as an opportunity and a privilege.

IX. Minimum Essentials

In the light of the discussion on individual differences and remedial measures it is quite obvious that it is unwise and injudicious to set up definite goals of achievement for all students for all years of the English course; however, there are some rather clearly defined basic principles in oral and written composition that should be followed; some standard works of writers that should be read and studied, and certain attitudes and abilities that should be reached by the entire company of satisfactory high school students taking the English course. The standards as outlined in this course of study give suggested work that should be accomplished.

X. The Inspiration of English

A. General statement

Perhaps we can agree with C. H. Ward in the following statement: "English teaching in America is slowly but surely evolving into a science, and that science recognizes the basic importance of the adequate teaching of the mother tongue. . . . Ignorance of a classroom procedure is general . . . Teachers should recognize that we are as yet only on the threshold of the program. Ignorance in the formulation of a program is doubly perilous; over-zealous faith in applying formulas is a living death. A gifted teacher will succeed after a fashion without a technique, and a poor teacher will fail if her program were made in heaven. Yet it is true that the genius will be improved and the average teacher will do immensely better if energies are directed along a highway that experience has surveyed and graded."—C. H. Ward, New York State English Bulletin.

B. The teacher

Success in English requires the trained teacher. The teacher should be trained by the study of his subject, trained by the study of educational principles and methods, and trained by practical experience. The novice and itinerant, often one and the same, is the chief stumbling block to progress in English as in other fields. He must give way to the professional imbued with a sympathetic spirit. Such a person will have rational standards, mature judgment, and definite methods of measuring results.

C. The classroom

Much depends upon the arrangement of the classroom and the general conduct of the class period. The ordinary classroom with its regularity of desks and chairs and the teacher always seated at a desk in front may not prove fatal to the reception of literary values, but in such rooms even the most inspiring teacher works at a disadvantage. One could easily conceive of a far more inspiring arrangement for the English classroom. In the front of the room will be a small stage; seated about two or three large tables will be the teacher and the students; up and down the middle of the tables are found rows of books to which reference can be made and some are used for reading. On smaller tables are periodicals and on the walls are bulletin boards bearing announcements of new books, book reviews, kindred material. Displays of classwork in the form of charts, compositions, book reports, valuable from decorative as well as pedagogical viewpoints will be in evidence. The artistic teacher will make use of such material aids as plants, pictures, and books discriminately selected and tastefully arranged.

D. The class period

A more important source of inspiration than the classroom is the class period. One of the prime purposes of the study of English is to provide pupils with such pleasurable experiences in reading, speaking, and writing that they will wish to continue those activities throughout life. Such an inclination probably cannot be cultivated in all pupils; but a disposition on the part of the teacher to praise instead of condemn will go far toward establishing correct English attitudes in the pupils. Pupils should be commended when their work shows improvement. It is by no means recommended that defects be ignored; quite the contrary; but when dealt with they should be pointed out sympathetically, and constructive suggestions ought to be given for their elimination; scolding and direful threats of coming examinations are fatal to satisfactory results.

XI. Cooperation With Other Departments

A. General statement

Cooperation between the English department and other departments has been an uncomfortable issue in Montana schools for some time. "Cooperation begins at home." In his own classroom the English teacher must combat slovenly speech and posture, carelessly worded replies, indifference, and other habits and attitudes which make English instruction ineffective. It is the English teacher's business, a part of his "job" as a teacher, to use a follow-up method, at least with his worst offenders, to learn whether the attitudes and skills sought in the English classes are carrying over into other subjects.

This cooperation between the English Department and the other departments of a high school is essential. There is an urgent need of the ability to understand and use correct English in all departments for it is the medium through which a knowledge of other subjects is acquired. The student who has trouble in history is at a loss to make improvement because he does not know how to grasp the meaning in clear and concise English. To remedy this situation there needs to be cooperation between the teacher of history and the teacher of English. In mathematics and in science we find a demand for exactness of measurement and perfection in experimentation; the chemistry teacher expects accuracy within the hundredths and the mathematics teacher frowns if a sixteenth becomes an error of a seventh, but these teachers see no cause for alarm if the pride of their class uses "rang" for "rung", "came" for "come", and other glaringly incorrect expressions. But all the cooperation should not be on the part of the other teachers; the English teacher has her part to play.

In composition classes this can be done without adding to the burden of the English teacher. The work in history, science, manual training, foreign languages, art, and music affords a wealth of material lying ready for the use of the English teacher. It is the business of the English teacher to cooperate with all other departments. She can help the other departments by teaching the pupils how to organize their recitations, how to write their themes and examinations; and by giving proper credit for the reading of books recommended by other teachers if these books have been adequately reviewed and reported. The teachers of other departments can help the teacher of English by refusing to accept recitations and papers that show poor organization or are slovenly written. Full cooperation by all is essentially necessary.

B. Responsibility of the high school principal

Since the quality of the pupils' English is the school's business quite as much as that of the English teacher's, the principal of the high school can lend an immeasurable influence in securing good results. To accomplish this he could formulate plans so that

1. All teachers require answers to be definitely stated and in good sentence form, regardless of the class in which they are given
2. In all written work all teachers adhere to uniform manuscript requirements
3. All teachers refuse to credit any written work containing gross violations of the requirements of the preceding year
4. All teachers report to him periodically concerning the quality of the English in their departments
5. When the topical form of recitation is used, pupils observe the requirements given for the preceding year's oral composition

C. Other ways of cooperating

1. Provide each teacher with a rubber stamp bearing the imprint "English unsatisfactory." If more than one paper is so marked the pupil should be put in the corrective English class until papers show a decided improvement.
2. Themes written for credit in two departments, such as the English and history, may be graded for mechanics and organization by the teacher of English and for informational content by the teacher of history.
3. Teachers of other subjects may give a double grade on all written work, the numerator indicating the content and the denominator indicating the English. The grade in the mechanics of English should be handed to the teacher of English at definite intervals.
4. On all papers marked sixty or above, the teacher may give from one to five points for notably good English.

5. Teachers of English should give proper credit to pupils for the reading of books recommended by other teachers, if these books are adequately reviewed.
6. Provide cards, such as the one following, on which teachers of other subjects should be asked, at the end of each six weeks, to check the pupils' deficiencies in English. (Taken from the Utah Course of Study.)
7. A mimeographed or printed pamphlet of standard usage prepared by the English department and distributed to teachers and pupils of the school will be a great aid in announcing what principles of English usage must be observed in all school speech and writing and in suggesting how these requirements may be met.

ENGLISH DEFICIENCY DEPARTMENT

(Name of Pupil)...

needs help in the phase of English which is checked.

Oral

1. Pronunciation
2. Sentence completeness
3. Organization
4. Grammar

Written

1. Legibility
2. Margin
3. Title
4. Punctuation
    (a) Period
    (b) Comma
    (c) Semicolon
    (d) Colon
5. Sentence structure
    (a) Run-on sentence
    (b) Fragmentary construction
6. Organization
7. Grammar
    (a) Verbs--forms
    (b) Verbs--agreement with subject
    (c) Pronouns--case
8. Outlining

(Name of teacher indicating deficiencies)

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XII. Books and Materials

Textbooks alone do not provide that generous companionship with authors necessary to the making of readers and writers. High school classes in English need a library and a good reading room, with a generous collection of books adapted to the needs of the students with a trained librarian in charge. They need also the stereopticon, the duplicator, the filing cabinet, and the picture collection.

It should not be in this day of expensive school buildings, that school boards should be so reluctant to provide adequate and essential working tools in the form of working libraries. There should be enough books so that each student could have a wide liberty of choice and so that many students may be reading the same book when a particular title seems popular. A school library which consists of single copies of works needed for classroom use, carefully acquisitioned and stacked, and to be used only on a withdrawal card is not a working library. Books needed for classroom use should be in the classroom for use and under suitable control. There should be easy access from the main library stacks to the classroom and back again, as lists of books are needed and as the need is ultimately filled. Adapted from The Practice of Teaching in the Secondary Schools—Dr. H. C. Morrison.

PART TWO—INTRODUCTION TO COMPOSITION

I. General Suggestions

The people of the United States use their English language for three purposes:

A. As a necessary instrument of thought. (We think in words and in sentences.) There may be simple thought without language, but for man the language vehicle appears indispensable for thought which is clear, definite and forceful.

B. As the instrument of the expression of one's thought.

C. As the instrument employed in receiving the thought of others.

From this conception of the place of English in efficient living, there follow three definite assumptions:

D. Language should not be taught as an end in itself but as a means of transmitting necessary thought.

E. The best thought experience of the pupil should be used as a basis for developing the accompanying language power.

F. The accumulation and development of ideas should proceed with a corresponding increase in the vocabulary and power of expression.

Recently a noted speaker was being questioned by a group of admiring high school boys and girls: "Where did you get your training for public speaking?" inquired a curious student. "I never had any special training," was the prompt reply. Yet this man was a master in the use of English. He could hold audiences spellbound with his orderly presentation, his fluency, his dramatic ability, and the sincerity of his appeal.

We all know of men and women without special training in English composition who, feeling that they have a message for the public, find an effective way of writing it or telling it. They may have had to do some intensive work in becoming proficient in expressing themselves, they may have had to overcome some bad habits, they undoubtedly were thankful for any fundamental principles of expression mastered early in life, but the fact remains, that with a very meagre beginning, they were able to become unusually capable in the use of language when a special need for it became apparent, and when they had the ideas to express and the motive for expression.

In spite of the close relation between thought and expression we often try to teach as if they were something separate and distinct. It is true, there are two elements in every oral and written composition which it is possible to distinguish—ideas and form; but the two are closely related. If the student has no ideas worth mentioning concerning the subject on which he is writing or speaking, and no particular urge to express himself, the exercise is not likely to have much effect on the quality of his English. If the opposite situation exists—if the student is interested in the subject, knows something worth telling and has a desire to tell—he is sure to make progress in his ability to use language effectively.

II. Aims in Composition

The aims in English composition, oral and written, as given in the report of the National Joint Committee on English are as follows:

A. Aims in Speech

Speech training should result in ability to answer questions precisely, to converse pertinently and respectfully, to read aloud effectively, to prepare and present original material before an audience. The pupil of exceptional ability should be given opportunity for practice in delivering more elaborate addresses and in conducting public meetings.

B. Aims in Writing

Training in writing should result in ability to write correct and courteous letters, to compose clear and readable paragraphs, to outline and write on basis of outlines, to plan and work out reports of some length. Pupils with literary tastes or ambitions should in addition be trained to write short stories and plays for publication or presentation. (See Bulletin of the Bureau of Education, 1917, No. 2. Reorganization of English in Secondary Schools. Government Printing Office, Washington, D. C. 20 cents.)

III. Motivation

It is trite to say that motivation in the teaching of English is the "beginning of knowledge," but it cannot be too strongly emphasized. Without proper motivation, the efforts and time of the teacher and pupils may be utterly wasted and discouragement added to failure. The instructor will find that many high school students have already built up strong motives for the study of English, while many others accept it like a doctor's prescription. This problem of stimulating the proper student attitude toward the study of English cannot be solved by any one simple method or suggestion. Only one phase of motivation will be dealt with.

The subjects selected for the student's composition work should appeal to his interest and be within the range of his ability. Since the average class in high school English represents a diversity of interests and many different grades and qualities of intelligence, we should see that the work assigned covers a wide variety of subjects and is suited to the different individuals. The objection may be made that the student should be taught to adapt his English to useful purposes and not merely to cultivate his hobbies. The answer is that the best that can be done is to build on the most promising interests and experiences the student possesses. He will not learn to master English which deals with something beyond his present comprehension and appreciation. Themes based on literature subjects often fall into this classification and should be used sparingly. We shall probably find, too, that to take advantage of student interests does not prevent us from giving training in the most practical uses to which English composition will be put.

IV. Individualized Instruction

Instruction should be individualized as much as possible. For this, personal conferences are a necessity and should be made a part of the regular program. No text or course of study should be followed blindly. Such teaching will miss the real needs of the pupils and destroy their interests. The English teacher will do well to remind himself frequently that he is teaching individuals and not following a fixed program or a text.

V. Diagnosis of English Weaknesses

A diagnostic study of the language abilities of each pupil needs to be made, not only when he enters the ninth grade, but at intervals throughout the four years. Where he reveals a weakness, he is to be trained. Spelling, pronunciation, and grammatical drills are to be centered upon actual errors made. Oral speech defects, affected mannerisms, faults in enunciation, voice quality, and pitch are to be detected and eliminated without unnecessarily discouraging the student. He should be taught to recognize his own errors and to work to eliminate them. It is a good plan for each student to keep a special record of his persistent errors in grammar and composition. (See Appendix for common errors.)

VI. Use of Tests in Improving English

If tests and examinations are to be a fair measure of what students have learned and what has been taught in the course, great care must be taken in wording them. The examination should be graded on mechanics as well as on thought. The examination should be so conducted as to train the student in rapid, orderly thinking and in accurate writing.

Standardized tests for the measurement of ability, achievement and progress in English should be used at intervals throughout each school year. If one were given at the beginning of the year, class and individual weaknesses would be disclosed and both the teacher and pupils could concentrate their drill on those weaknesses. After such drill, succeeding tests will show how well the teaching functions and will disclose other weaknesses. The most generally used standardized (objective) tests are the recall types (completion), the recognition types (true-false, multiple choice, best answer, and matching exercise), and the judgment types. Such tests are excellent for training in quick, concise answers. Their use, however, should not exclude the use of thought questions requiring some effort in composition. Thought questions should be written in full theme form. (See bibliography for tests.)

VII. Drill and Follow-up Work

One of the great sins in composition teaching has been the emphasis placed upon theory without adequate exercises in applying that theory. Composition should be taught by a "laboratory" method requiring pupils to work with the language in concrete fashion, preferably in class or under the immediate supervision of the English teacher. The mere learning of theory, whatever other value it may have, will never bring about the use of good English by the pupil; for this purpose, practice material must be provided and checking of the pupil's daily speech and written exercises must be carried out systematically. Every textbook contains such drill material, but in practically no case are the textbook exercises sufficient to fix definite reactions to the principles studied. The pupil who does not previously know how to handle his apostrophes and s's with the various numbers and forms of the possessive case does not learn to apply these principles through the ten or twelve practice sentences supplied in the average text; and if this is true of a comparatively simple English situation such as the use of the possessive case, it is true to a much greater degree of more involved principles, such as cases and antecedents of pronouns, refererence of participles, unity in the sentence, and agreement of subject and verb.

Progressive teachers, realizing the insufficiency of practice material in the text, supplement the exercises extensively. In written work, supplementary exercise material should be mimeographed or bought in regularly prepared practice pads. It is false economy to take up time of teacher and pupils with dictating and copying exercises which could as well be prepared in advance and distributed during the class period. Oral drills designed to fix certain important and correct habits of speech are very effective and should be used in every high school. The best way to teach the right forms is to have the pupil repeat them often enough to make only the right form sound right.

The teacher can easily arrange a series of short sentences illustrating the correct use of common words, possibly dividing the sentences into groups, each dealing with one or two parts of speech. The whole class should practice reading these sentences aloud until they form the habit of using the words correctly. A few minutes at the beginning of a class period two or three times a week, devoted to this sort of drill, will bring good results. The length of time this work should be continued will depend on the language habits of the pupils and can well be left to the judgment of the teacher.

The principle of follow-up work cannot be over-emphasized. The textbook and the course of study mention or treat a subject, dismiss it, and pass on to another. The teacher cannot follow this simple plan. In addition to teaching new principles he must check continuously to see that those already studied are being applied. Reviews are useful; but more important than reviews is constant check of pupils' speech and their written work by classmates and teachers.

There are three phases of successful teaching of a language principle: 1. Imparting original information. 2. Drill for adequate understanding and formation of habit. 3. Follow-up work for permanent habituation. An attempt to teach the first phase without adding the second and third sequences will result in failure.

The dictation exercise should be a well-established part of the class program in composition training. It is an aid in teaching capitalization, spelling, punctuation, and grammar constructions; it builds up the pupil's vocabulary and shows him new uses for the words he already knows; it impresses many qualities of good writing on the mind of the student.

1. Ten or fifteen minutes at the beginning of the recitation period twice a week can well be devoted to dictation exercises.
2. The dictation material should have a bearing on the current class work in grammar and composition.
3. The selection should be explained to the class and for copying should be read just once, slowly and clearly.
4. The exercise should usually close with re-reading and correction by the pupil.

VIII. Minimum Essentials

This course of study does not provide a definite program of minimum essentials. In fact, there is much difference of opinion as to what should be contained in such a program, and it is impossible to recommend an authoritative list of requirements which all schools could obtain. Most teachers or English departments would likely prefer to make their own list of minima and it would seem that this is the best way to handle the problem at present. The usual arrangement is to have a list of minimum essentials for each year or grade in the high school, but the plan of having one list for the entire four years, with an examination requirement for each year, seems to be growing in favor.

A. Points to remember

In carrying out a program based on minimum essentials some caution should be observed. The English teacher should remember that:

1. Some of the more important phases of English composition cannot be satisfactorily defined in a list of minima.
2. It is possible to emphasize certain matters of spelling, punctuation and grammatical terms to the neglect of other aims—for some pupils more important. ("The committee thinks that two-fifths of the time for expression is, under any conditions, a maximum for a systematic course in grammar." Fifth Yearbook, Department of Superintendence, Junior High School Curriculum.)

B. Helpful suggestions

If the English department has formulated a list of minimum requirements, and proposes to carry out a plan for promotion based on this list, the following suggestions may be found helpful:

1. After the plan has become established, hold pupils responsible for the mastery of the minimum requirements for each preceding year, if separate lists are used
2. Give each pupil a printed or mimeographed copy of the minimum requirements
3. Furnish a copy of the minima to each teacher in the high school and ask for his cooperation
4. Post lists of the minima in each room
5. Popularize the minima by contests between groups of pupils of similar ability
6. Excuse from further drills the pupils who give satisfactory evidence of having mastered the minima

IX. Oral and Written Composition a Unit

It should be realized that speaking and writing are two forms of one activity; that the principles underlying the two are in most particulars the same; that consequently they can be made to reinforce each other and should be learned together. Spelling may seem to belong as exclusively to written composition as does pronunciation to oral work; but the two are related, for many words are misspelled because of faulty pronunciation. Surely the general principles governing selection and organization of material in speech and writing are in all essential respects so similar as to be practically identical.

X. Oral Composition

The informal teaching of oral composition is more important to the average pupil than is training in ability to appear in a formal way before the class or the school. Viewed in this way every recitation offers opportunity for practice in oral expression; every sentence that the pupil speaks is an exercise in oral composition. The use of correct English is a habit which, like all other habits, is formed through conscious application. The teacher who expects to secure satisfying results must apply himself and must train his pupils to apply themselves to the eradication of errors. The teacher who adopts an inquiring attitude toward the pupil who uses "seen" for "saw" is the teacher whose pupils eliminate this error from their speech. Effective appearance before an audience is a valuable accomplishment, but elimination of gross errors is an invaluable one.

Occasions for appearance before audiences larger than the class should be eagerly sought. Appearances before school assemblies, school literary clubs, and on programs for the observance of special days are highly beneficial. American Education Week offers opportunity for speaking before school and town audiences. Local, district, and state contests in extemporaneous speaking and debate furnish powerful motivation to oral composition.

Formal debate has been placed in the sophomore year. Debating is a very important activity in teaching English because of the strong motivation which accompanies it. By emphasizing debating early in the course greater interest is secured and students are given more time in which to develop their ability to present a logical and courteous argument. If the teacher finds that a large number of freshmen are interested in debating, it may even be found profitable to devote a reasonable share of the time allotted for oral composition in the first year to this activity. The teacher with one hundred or more pupils is not expected to give elaborate training in formal oral composition.

The following suggestions may be found helpful:

A. General

1. Allow an average of one class period a week throughout the semester to formal oral composition
2. Require the pupils to apply to their oral compositions the same systematic care and the same technical execution that they apply to their written themes
3. Socialize many of the usual recitations
4. Solicit the aid of other teachers in the school in insisting on the use of correct oral English

B. Subject matter

1. The subject matter of the oral theme may be the same as for the written theme if it precedes the written theme
2. The problems selected for oral composition should appeal to the natural interest of the student and approximate actual life situations as nearly as possible

C. Preparation

Instruct each student as follows:

1. Outline your theme carefully
2. Do not commit your speech to memory
3. Confine yourself to a single point and elaborate it
4. Vary the beginnings of your sentences
5. Read as widely as the time for your preparation permits
6. Give special attention to the beginning and ending of your talk

D. Delivery

1. Require the student to stand erect at the front of the room while delivering his oral composition
2. Impress upon the student that enthusiasm is one of the greatest factors in successful delivery
3. Work for accurate pronunciation and clear enunciation. Drill exercises are very helpful for this purpose.
4. Encourage the student to vary his tone quality, facial expression, sentence structure, and rate of speech

E. Criticisms

1. Work for spontaneity in the beginning
2. Concentrate on the elimination of a few faults at a time
3. Have the pupil keep a record of his most troublesome errors
4. Correct slovenly posture, ungrammatical expressions and faulty organization just as rigorously in topical recitations as you would in other composition work
5. Bring the class to realize that the success of oral composition depends on good listeners as well as on good speakers
6. When not reciting, students should be required to pay close attention to the recitation and reports of others. There's nothing so stimulating to a speaker as knowledge that he is being listened to. (Closer attention may be secured by requiring listening students "to take notes at appropriate times, to summarize a series of individual contributions, and to criticize each other's remarks constructively.") Adapted from the Kansas Course of Study in English.

It is evident that Oral Composition and Interpretative Reading are closely related—in fact, they are two phases of the same activity. The teacher should read the suggestions given for Interpretative Reading.

XI. Written Composition

A precis (pra'se) is a condensation of a story or article written in a clear, concise, orderly manner. It is usually about one-third or one-fourth as long as the original. Precis writing is a most helpful exercise and is gaining favor in our schools. It gives practice in reading critically and understandingly. It trains the student to organize his thought, omit non-essentials, use discrimination in the choice of words and make every sentence count. It is also one of the best methods of increasing the vocabularly. It can be used most effectively in the junior and senior years of the high school course.

Theme writing is fundamental in teaching high school English and nothing else can take its place. A minimum in number and length of themes has been indicated in the outline for each semester's work, but this suggestion is necessarily very general. By assigning short themes and having the students—especially the freshmen and sophomores—do much of their writing under supervision, this work can be made an important part of the weekly program. Frequency is more important than quantity.

A carelessly prepared theme is of no value whatever, and the teacher should do his best to prevent such exercises from being written. Careful attention must be given to motivation, assignments, and the checking of student preliminary plans for theme writing. These are the ways in which slipshod work in English must be attacked. To have the student write well and speak well is the aim of the course. It does little good to tell him he has failed and bewilder him with numerous corrections.

Advantage should be taken of every opportunity to give the student public recognition for good written work. A limited number of themes which have exceptional qualities of style, organization or content should be read in class. The school paper, the local newspaper, the various essay contests instituted at regular and irregular intervals by state and national institutions, agencies and organizations, are written composition motives which should be utilized to the greatest possible extent.

A. Suggestions for the disposition of themes

1. Insist that themes be completed in the required time
2. Refuse to spend any time correcting careless work
3. Limit your corrections to violations of principles which have been covered in class work
4. Remember that the object of your work is to enable your pupil to find and correct the errors he should not have made, and the exercise should not be considered complete until you have approved such corrections
5. Merely check and underline errors in themes or use a simple system of marks to designate common faults
6. Penalize errors in minimum essentials heavily and show such violations by a special mark
7. Arrange plans for students to correct many of their own short themes by exchanging papers
8. When grading, allow for content and mechanics
9. Mimeograph sample themes or other material for correction by the class; also make liberal use of the blackboard for this purpose
10. Most revision of themes should be done in class under the supervision of the teacher

NINTH GRADE COMPOSITION SEMESTER

A. Introductory Statement

This course recommends that both oral and written English be taught. An overemphasis should not be placed on written English to the near-neglect of the English of every day use. It would be well for the teacher to keep in mind the aims in speech and writing as given in the Introduction to Composition. The chief purpose in the ninth grade composition semester should be the mastery of the sentence (if this has not been accomplished in the grades below) and accuracy in spelling; punctuation and dictation. Such purpose makes necessary the study of functional grammar and many models of well-written English. Through wide reading the student will be able to secure models for imitation and content material for paragraphs and themes, both oral and written. Greater ease and accuracy should be developed in oral speech, whether that be in the form of oral themes, daily class recitation, or in ordinary speech. This ease may be secured through:

1. Establishing sentence unity as a mental habit
2. Creating a desire to use better speech
3. Eradication of vulgarisms
4. Insistence on correct use of grammatical forms
5. Better choice of words
6. Much drill on correct forms
7. Establishing a self-critical attitude as regards the use of English

The establishing of friendly relations between the pupils and teacher will aid much in ridding the class of any feelings of stiffness or unnaturalness in speech. No pupil should be ridiculed for his errors. Encouragement, sympathetic cooperation, and enthusiasm on the part of the teacher will do much to bring out the best work because of pupils' greater spontaneity. The spirit and quality of the English used daily in recitation can be markedly bettered by any purposeful teacher and cooperative class. Good English needs encouragement. The English teacher should solicit the active cooperation of every teacher in school in demanding the constant use of correct English.

B. Aims

1. To arouse an intelligent interest in the structure of the whole composition and the coherence of its parts
2. To develop a sentence sense based on clear thinking
3. To broaden the pupil's knowledge of grammar with emphasis on pronouns, verbs, and adjectives
4. To make a definite improvement in spelling, giving special attention to the prescribed list of words
5. To develop an interest in oral expression, and confidence to speak in public

C. Attainments

At least twelve themes, of not less than fifty words each, should be written under direct supervision of the teacher; and five themes, of not less than one hundred and fifty words each, should be prepared by the student with little more help than preliminary suggestions. Each pupil should:

1. Prepare and deliver a minimum of six oral themes, each, at least one minute in length
2. Learn to prepare his themes in the proper form prescribed by the English department of his high school
3. Be able to write a paragraph without straying from the subject
4. Be able to write a simple social or business letter in the proper form, reasonably free from errors in spelling and punctuation
5. Be able to distinguish a complete sentence from an incomplete sentence
6. Show evidence of a reasonable mastery of the work outlined for grammar and punctuation
7. Make definite progress in the ability to write and deliver written and oral compositions
8. Master the list of spelling demons given for this semester
9. Give a satisfactory report on that part of the year's supplementary reading which has been assigned him for this semester

D. Content

1. Correct usage

a. Sentence structure

- (1) Developing the ability to distinguish complete sentences from fragments of sentences
- (2) Teaching students to identify simple, complex and compound sentences
- (3) Having students appreciate the advantages of using short, simple sentences to express themselves clearly and concisely
- (4) Eliminating specific faults in composition arising from the lack of an understanding of the fundamentals of sentence structure

b. Functional grammar

- (1) The parts of speech recognized by function in the sentence
- (2) Common and proper nouns; cases of nouns
- (3) Classes, forms, and uses of pronouns
- (4) Phrases and clauses used as nouns
- (5) Person, number, and tense of verbs; voice of the transitive verb
- (6) Correct use of the various persons and tenses of **sit, set, lie, lay, come, do, see, ring, go, drink, run, get**
- (7) Analysis of sentences of simple structure. Diagraming can be used to advantage.
- (8) Individual record of most common errors and exercises to eliminate them
- (9) Special attention to
  - (a) Case forms of pronouns
  - (b) Agreement of subject and verb
  - (c) Elimination of common vulgarisms

c. Capitalization

- (1) Habituation of correct capitalization of the following:
  - (a) The first letter in the first word of a sentence, a line of poetry, a direct quotation, and each item of a tabulated outline
  - (b) The first and all important words in the title of a book, composition, or article
  - (c) The salutation and complimentary close of a letter
  - (d) Nouns unmistakably proper
  - (e) Nouns sometimes common and sometimes proper

d. Punctuation

- (1) Use of the period, question mark, exclamation point, colon, apostrophe, and quotation mark
- (2) Use of the hyphen to separate a word at the end of a line
- (3) Necessary punctuation for the heading, salutation, and close of a letter
- (4) Use of the semicolon to separate independent clauses not joined by a connective
- (5) Use of the comma to set off
  - (a) Words, phrases, and clauses in a series
  - (b) Parenthetic or independent matter
  - (c) Words, phrases or clauses out of their usual order
  - (d) Short quotations
  - (e) Usually the first clause of a compound sentence which is joined to the second clause by conjunction

e. Spelling

- (1) The four most helpful rules in spelling:
  - (a) Words of one syllable and words accented on the last vowel, double the final consonant before adding a suffix beginning with a vowel. Examples: refer, stop, plan, occur
  - (b) Words ending in a silent **e** drop the **e** when adding a suffix beginning with a vowel. Examples: hope, please, force
  - (c) When **ei** and **ie** are sounded ee, i comes before **e** except after **c**. Examples: grieve, relieve, receive
  - (d) Words ending in y preceded by a consonant change the y to i before a suffix beginning with a vowel. Examples: pity, fly, study
- (2) Exceptions to above rules
- (3) Individual spelling lists kept by each pupil
- (4) The following words frequently misspelled by high school pupils:

absence
against
all right
already
altogether
appearance
athlete
believe
biggest
business
change
captain
careful
catch
certain
choosing
coarse
coming
concern
couldn't
courteous
deceive

decision
descend
describe
didn't
dining
disappointment
dropped
easily
eighth
enemies
enrolled
especially
exercise
experience
February
finally
fourteen
friend
goddess
grieve
guard

presence
principal
probably
received
recommend
ridiculous
safety
senses
sentence
shining
shook
sure
together
their
truly
unnecessary
usually
vegetable
villain
women
writing

happened
haven't
hoping
interest
isn't
it's
its
judgment
led
losing
maybe
misspelled
moving
necessary
ninety
o'clock
omitting
perform
physically
possess
preferred

f. Vocabulary building

- (1) Use of vocabulary tests
- (2) Acquaintance with various divisions of the dictionary
- (3) Drill in finding words, interpreting marks, choosing definitions, determining spellings of past tenses, plurals, and compound words

    (4) Habitual consultation of the dictionary for the spelling, syllabication, meaning, and pronunciation of words
    (5) Habituation of substitutes for slang expressions

  g. **Paragraphing**
    (1) Study of form of the paragraph
    (2) Study of reasonable length of paragraphs
    (3) Identifying topic sentences in paragraphs found in reading or in themes
    (4) Writing topic sentences for paragraphs
    (5) Developing paragraphs from topic sentences

  h. **Manuscript form**
    (1) Furnish each student an outline of forms adopted by the school for themes, letters, and other exercises
    (2) Drill students on preparation of exercises to comply with school requirements

2. **Written composition**

  a. General theme writing. The following suggestions may be helpful:
    (1) Diaries and autobiographies
    (2) Information about vocations
    (3) Cooperation on school projects involving written composition
    (4) Reports on current events
    (5) Miscellaneous subjects for stories and themes
      (a) An Insane Fourth
      (b) My Experience as a Cook
      (c) Joys of Wool Gathering
      (d) My Superstitions
      (e) How it Feels to be Extinguished
      (f) Soliloquy of the Weather Man
      (g) Night Thoughts of a Puppy
      (h) Learning to Run an Automobile
      (i) What One Can Do Without
      (j) How Gossip Travels
      (k) A Modern Parable
      (l) An Indian Legend
      (m) A Pair of Squeaking Shoes
      (n) Animal Pets
      (o) Punctuality
      (p) Bird Tragedies
      (q) School Citizenship
      (r) Over the Alps Lies My Italy
      (s) Hobbies
      (t) A Scenic Spot in Montana

  b. **Letter writing**
    (1) Attention directed to stationery, ink, margins, heading, introduction, salutation, body, complimentary close, folding, and addressing of envelope
    (2) Friendly letters and simple business letters; ordering an article; requesting a favor; making an explanation; arranging interscholastic contests; discussing current topics with an absent schoolmate

3. **Oral composition** (see General Introduction)

  a. General suggestions
  The teacher should require pupils:
    (1) To apply to their oral compositions "the same systematic care and the same technical execution that they apply to the written theme."

  - (2) To answer questions clearly and distinctly
  - (3) To recite by topics, wherever possible
  - (4) To read prose, adapted to their age, interest and understanding, clearly and intelligibly
  - (5) When making oral reports, to stand before the class in a natural easy manner; to look directly at the audience; and to speak in a pleasant tone, distinctly enough to be heard by everyone
  - (6) To memorize selections of prose and poetry and to recite them sympathetically
  - (7) To speak for one or two minutes from a prepared outline on a topic of interest to the class
  - (8) To add variety by having different beginning sentences
  - (9) When not reciting, to listen attentively to the recitation and reports of others. (See suggestions in the Introduction to Composition.)
- b. Suggestions for oral themes:
  - (1) Telling an interesting story
  - (2) Making announcements
  - (3) Recommending book, magazine, article, play, or movie
  - (4) Discussing hobbies, recreations, or news of the day
  - (5) Giving reports of information collected through reading, interviews or experience
  - (6) Explaining pictures or diagrams shown to illustrate some point of interest
  - (7) Giving instructions as to how to do or make something
  - (8) Participating in formal discussions

4. Reports on supplementary reading

Not more than one day every two weeks should be devoted to these reports. They should be both oral and written.

TENTH GRADE COMPOSITION SEMESTER

A. Introductory Statement

In the tenth grade composition semester the chief emphasis should be on maintaining the requirements set for the ninth year and on sentence formation and on the development of the paragraph, both oral and written. The teacher and class should study and stress variety and effectiveness in sentence structure, that the student may express himself more clearly and interestingly. The exercises in diction should develop skill in both oral and written English. There should be much building of concise paragraphs through sentence manipulation, stressing:

1. Clearness through connectives
2. The correct placing of modifiers
3. Right choice of words to express the intended meaning
4. Variety, especially in the beginning and ending of sentences

Much emphasis should be laid upon the organization of ideas through a simple form of outline. An outline that is simple and definite is a great aid to good thinking, speaking and writing. There should be daily practice in picking out the topic sentences of paragraphs, and occasionally there should be practice in "blocking out the main topics of the material read" or studied by the student. "The products should be greater clearness and force in speech and writing, increased power of persuasion . . ." (Adapted from High School Handbook in English of the Detroit Public Schools.)

B. Aims

1. To improve the abilities and skills acquired in the ninth grade
2. To continue the study of functional grammar, punctuation and spelling
3. To develop the ability to write good paragraphs
4. To teach the student how to write the ordinary types of business and social letters
5. To develop the ability to select and arrange material to accomplish a specific purpose (to make outlines)
6. To continue the work in oral expression and apply it to formal debate

C. Attainments

At least twelve themes, each of fifty to one hundred and fifty words in length, should be written under direct supervision of the teacher; and five themes, each of one hundred and fifty to three hundred words or more in length, should be prepared by the student with little more help than preliminary suggestions.

The student should:

1. Show ability to apply the principles mastered in the ninth grade
2. Learn to plan a well-organized outline for his themes
3. Be able to write a paragraph that has a topic sentence, a sequence of ideas, and a summary sentence
4. Learn to use a variety of words and variety in sentence structure
5. Prepare an argument brief and take part in at least one formal debate
6. Master the list of spelling demons given for this semester
7. Give a satisfactory report on that part of the year's supplementary reading which has been assigned him for this semester

D. Content

1. Correct usage

a. Sentence structure

- (1) Continuous application of principles studied in the ninth grade
- (2) Securing a variety of sentence structure
- (3) Giving practice in using proper subordination
- (4) Substituting simple sentences for complex or compound sentences
- (5) Eliminating redundancy and prolixity
- (6) Giving special attention to the following errors:
  - (a) Change of construction within the sentence
  - (b) Indefinite reference of participles and prepositional phrases
  - (c) Faulty relation of pronoun and antecedent
  - (d) Lack of harmony of tenses

b. Functional grammar

- (1) Continued analysis of sentences
- (2) Practice in the use of the principal parts of such verbs as **lose, loose, rise, raise, begin, swim, forget, take, sing, eat, drag**
- (3) Special attention to:
  - (a) The exact relationship expressed by the most useful conjunctions
  - (b) Confusion of adjectives and adverbs
  - (c) Fixing in mind the form of the predicate pronoun and the pronoun object
  - (d) Distinguishing and using **who** and **which**; **who, whose, who's,** and **whom**
  - (e) Continual efforts to eliminate common vulgarisms

c. Punctuation

- (1) Continuous application of principles studied in the ninth grade
- (2) Use of parenthesis, dash and hyphen
- (3) Additional uses of the semicolon
- (4) Use of the comma to:
  - (a) Set off non-restrictive phrases and clauses
  - (b) Denote an ellipse
  - (c) Set off special constructions and make statements clear

d. Spelling

- (1) An individual list of spelling words kept in the notebook of each student
- (2) The following list of words frequently misspelled by high school students plus any words not mastered in the previous year:

accept
accommodate
acquainted
acknowledge
always
ambitious
anxious
apologize
arranging
balance
beginning
benefit
bookkeeping

bureau
burglar
Caesar
calendar
character
college
committee
compel
control
consonant
convenience
customary
decided

definite
democracy
descendant
develop
desirable
disappear
dissatisfied
efficient
eligible
equipped
essential
excited
existence

explanation
forceful
forcible
foreign
formerly
ghost
grammar
government
height
hurries
hurrying
imagine
immediately

initial
innocent
interfere
knowledge
leisure
luxuries
marriage
merely
miscellaneous
naturally
nickel
occasion
occurred
parents
peaceable
piece
practically
precede
prejudice
privilege
recognize
recollect
reputation
secretary
siege
similar
studying
summary
superstitious
swimming
temperature
tragedy
Tuesday
unmanageable
villain
visible
weather
weird
whether
wholly

e. Vocabulary building

- (1) Study of synonyms, antonyms, and homonyms
- (2) Study of root words, prefixes, suffixes, and derivatives
- (3) Drill on pronunciation and use of a limited number of troublesome words
- (4) Practice in the use of new words in writing and speaking

f. Paragraphing

- (1) Discover illustrations of paragraphs developed by the following methods: details, repetition, definition, illustration and example, comparison and contrast, cause and effect
- (2) Discover paragraphs of summary, transition, and conversation; select typical expository and descriptive paragraphs
- (3) Develop paragraphs of the various kinds mentioned above
- (4) Reconstruct paragraphs, the sentences of which have been jumbled into incoherence
- (5) Discover in reading and develop in themes good closing sentences for paragraphs
- (6) Indicate by underscoring, connective words and phrases in the sentences of coherently developed paragraphs
- (7) Introduce coherence into incoherent and ambiguous paragraphs by supplying connective words and phrases

g. Outlining

- (1) Detailed study of capitalization, punctuation, indentation, margins, numbering, lettering, and wording of the formal outline
- (2) Teaching the necessity for a definite theme or purpose
- (3) Preparation of simple briefs for arguments and debate

2. Written composition

a. Argumentation and debate

- (1) Have each pupil prepare at least one brief for debate and the full argument in written form
- (2) Choose questions of current interest which do not involve questions beyond the capacity of your students
- (3) Be sure there is plenty of reference material or available information on the subjects chosen for debate
- (4) Questions concerning the school or the local community can sometimes be used to good advantage and with much interest

b. General theme writing

- (1) Editorials, advertisements, character sketches, and the dramatization of situations may be added to the materials suggested for the ninth grade
- (2) The subjects suggested below may be helpful:
  - (a) A Ride in an Aeroplane
  - (b) Legends of Various Kinds
  - (c) An Evening with the Radio
  - (d) When My Brother Arrived from College
  - (e) Diary of a Freshman

        - (f) When Father Talks Politics
        - (g) Over the Coffee Cups
        - (h) After the Company Has Gone
        - (i) High School Pupils Should Wear Uniforms
        - (j) What Our Town Needs Most
        - (k) What Our School Needs
        - (l) The Angel Child Next Door
        - (m) Our Village Barber
        - (n) On Getting Up in the Morning
        - (o) The Policeman on Our Beat
        - (p) Intelligence in Animals
        - (q) What Not to Talk About
        - (r) How My Family Regards My Theme Nights
        - (s) Shoes as an Index of Personality
        - (t) Elements in One's Life Work That Are Necessary to Happiness
        - (u) Is Bluffing Worth While?

c. Letter writing

- (1) Continuation of work outlined for the ninth grade with a greater variety of letter types and more difficult problems in composition
- (2) Additional suggestions for business letters:
    - (a) Letters ordering catalogs, pamphlets, bulletins, samples
    - (b) Letters giving descriptions or directions
    - (c) Letters accompanying remittances
    - (d) Letters of complaint
- (3) Telegrams and night letters

3. Oral composition

a. Debate practice

b. Suggested activities

- (1) Continue work outlines for the ninth grade
- (2) Choose subjects for group discussion and conversation
- (3) Report on a speech, lecture or sermon
- (4) Introduce a speaker at assembly
- (5) Present an award or gift
- (6) Dramatization of
    - (a) Business interviews
    - (b) Situations to show social courtesies
- (7) Reports on materials in newspapers, and magazines
- (8) Practice oral paragraphs by reciting topically from outlines on the blackboard
- (9) Extempore talks on familiar topics
- (10) Criticism of class talks with emphasis on certain features, as: ease with which main topics may be recognized; interesting beginning and closing sentences; elimination of poor expressions, etc.

The outline for oral themes should be logical and easy to remember.

4. Reports on supplementary reading

Not more than one day every two weeks should be devoted to these reports.

ELEVENTH GRADE COMPOSITION SEMESTER

A. Introductory statement

In the Eleventh Grade Composition Semester the chief purpose should be to make proper application of what was learned in previous years, that is, the emphasis is changed from learning the rudiments of the sentence and paragraph to using orally and writing the forms of composition, needed in school and in daily life. The work in composition, both oral and written, should become more definitely technical. The secrets of literary effect and rhetorical effectiveness should be studied. Frequent return, however, is necessary to practice in grammatical correctness. Self-correction and self-improvement should be constantly and consistently emphasized. It should be impressed upon the student's mind that it is his business to plan, organize, write (when composition is written), and thoroughly revise his work. He should feel satisfied only with his best, whether that be in oral or written composition. Much practice should be given in parliamentary usage and in speaking before an audience.

B. Aims

1. To improve abilities and skills acquired in the previous grades
2. To extend and fix the knowledge of the principles of paragraph and sentence structure
3. To give experience in collecting and organizing material for longer themes—1000 words or more
4. To develop an accurate use of an adequate vocabulary
5. To develop skill in precis writing
6. To give practice in parliamentary usage

C. Attainments

At least twelve themes, of not less than one hundred and fifty words each, should be written under the direct supervision of the teacher; and five themes, from two hundred to one thousand or more words in length, should be prepared by the student outside of class hours.

Work in all the fundamental activities should be continued and the student should show ability to apply the principles mastered in the previous grades.

Each student should:

1. Be required to study the rules of parliamentary practice and take an active part in at least two meetings where these rules are put into operation
2. Make satisfactory progress in precis writing
3. Master the list of spelling demons given for this semester
4. Give a satisfactory report on that part of the year's supplementary reading which has been assigned him for this semester

D. Content

1. **Correct usage**
    - a. **Sentence structure**
        - (1) Continuous application of principles studied in the previous grades

(2) Identification and practice in the use of loose, periodic, and balanced sentences
(3) The arrangement of words, phrases, and clauses in the sentence for expressive effect
(4) The use of parallelism for obtaining clearness, force, and smoothness
(5) Recasting sentences to secure variety, force, and emphasis
(6) Review of sentences according to structure and use

b. Functional grammar

A review and a final drive for the elimination of mistakes which may have survived the instruction given individuals and the class as a whole during the preceding ten years.

c. Spelling

The following list of words frequently misspelled by high school students plus any not mastered the previous years:

accompanied
accumulate
acquainted
affect
amateur
analysis
ascend
barring
bicycle
boundary
Britain
buoyant
bulletin
cemetery
chauffeur
Chautauqua
column
comedy
conceivable
conscientious
cupboard
criticize
delicious
description
despair
device
disciple
discipline
drunkenness
ecstacy
embarrassment
emphasize
enthusiastic
epidemic
equivalent
exhausted
familiarize
fascinate
financier
formally
generally
grandeur
guarantee
harass
humorous
hypocrisy
independence
indictment
indispensable
intercede
invitation
judiciary
laboratory
license
maintenance
manual
mechanical
nominative
noticeable
observance
optimistic
parliament
personnel
picnicking
precedence
procedure
prophecy
prophesy
rehearsal
representative
reservoir
serviceable
sophomore
stationary
stationery
statute
supersede
suspicious
tranquillity
treacherous
turkeys
unconscious
valleys
vengeance
Wednesday

d. Word study

(1) Study and practice resulting in the realization of what constitutes "good use"
(2) Drill on more effective use of words: general and specific words, denotative and connotative meanings, repetition, euphony, idioms, triteness, and figures of speech
(3) Continuation of the drill on special words, and practice in the use of new words
(4) A check on new and valuable words used in themes

e. Unity, emphasis, and coherence

Review of unity, emphasis, and coherence on basis of application of these principles of structure to sentences, paragraphs, and complete compositions as taught in this and preceding years

f. Outlining and briefing

(1) Arranging into an organized outline a group of connected topics given in miscellaneous order
(2) Preparing both condensed and expanded outlines of longer units of literature studied in class or in home reading

(3) Preparation of detailed outlines of student's own oral and written compositions, or other assigned material
(4) Comparison of outline and brief forms
(5) Taking notes on speeches, reports, and oral composition of classmates; organizing notes into outlines

2. Written composition

a. Precis writing (see Introduction)

A requirement of one precis a week from each student throughout the semester would not be execessive. This could take the place of some of the usual theme writing.

b. General theme writing

(1) The principles emphasized in the preceding grades should be reviewed and applied. The work in composition should become more definitely technical.
(2) Much material may be drawn from other subjects of study, as natural sciences, social sciences, practical arts, and fine arts
(3) Newswriting, advertisements, and the familiar essay might receive some special attention in this semester
(4) The following subjects which have already been used successfully may be suggestive:
    (a) Packing
    (b) Travel with a Ford
    (c) "Look Pleasant, Please"
    (d) On Having Red Hair (other outstanding features may be substituted)
    (e) Other People as the Chauffeur Sees Them
    (f) Returns from the Study of (English, Chemistry, History)
    (g) Utilizing Leisure Time
    (h) Qualities to be Admired in a Student
    (i) Human Vegetables I Have Known
    (j) How Teasers Endure Teasing
    (k) The Value of a Sense of Humor
    (l) Things I Should Like to Know
    (m) My Pet Aversion
    (n) If Anyone Really Wants to Please Me
    (o) The Red and the Yellow
    (p) The Art of Being Lazy
    (q) Trying to be a Sunbeam
    (r) Heroine Worship
    (s) The Disadvantages of Lying
    (t) The Sweetest Wine Makes the Sourest Vinegar

c. Letter writing

(1) Continuation of work outlined in previous grades with new and more difficult types of letters
(2) Suggestions for letters
    (a) Letters of application
    (b) Letters of introduction
    (c) Letters of recommendation
    (d) Letters of congratulation
    (e) Letters of condolence
    (f) Letters of acknowledgment for gift or favor
    (g) Invitations and acceptances

3. Oral composition

a. Parliamentary practice

(1) Instruction on presentation and disposition of motions, kinds of motions, precedence of motions and amendments,

    point of order, request for information, rules governing debate, voting, motions in order and out of order, withdrawal, and reconsideration
    (2) Experience on the part of every pupil as chairman of a meeting of his class or the school
    (3) Continued work in formal and informal discussion

  b. **Debate**
    (1) Training in carrying on a conversational argument with courtesy to those who do not agree

  c. **Other activities**
    (1) Sales talks
    (2) Dictation of letters
    (3) Special occasion speeches

Throughout, effort should be made to secure desirable effects in the various kinds of oral work by introducing pauses, by varying rate, by increasing and decreasing force, by raising and lowering pitch, by changing voice quality, and by appropriate gestures. There should be many exercises for practice and application of principles studied to all oral work. (Adapted from Course of Study in English for Montana High Schools, 1925.)

4. **Reports on supplementary reading**

Not more than one day every two weeks should be devoted to these reports.

PART THREE

INTRODUCTION TO LITERATURE

I. General Plan

The general plan of the literature course is as follows:

> For the ninth grade, a general course which provides for much flexibility and makes a strong appeal to student interest.
>
> For the tenth grade, a course in American Literature, designed to acquaint the student with great American writers, ideals, and interests.
>
> For the eleventh grade, a course in English Literature which is intended to give the student a short review of the literature of England and some useful knowledge of a few of the masterpieces produced by English writers.
>
> For the twelfth grade, a course in types of literature which will give the student a review of the field of literature, aid him to find what literature interests he should cultivate, and assist him to fulfill all college entrance requirements.

It has been said, "It is nearly an axiom that people will not be better than the books they read." (Fuller.) It has also been said, "There is creative reading as well as creative writing." (Emerson.) These two sentiments have guided the revision committee in suggesting material for the literature course of study. The course as here presented suggests varied literary material, particularly for the ninth grade. Mr. Morrison, in his thought-provoking book, "The Practice of Teaching in the Secondary Schools," says: "By literature we mean any good reading which tends to contribute a sense of sound values in the pupil's developing outlook on life." The school, therefore, acting as a judge of good reading, must often create the taste for better reading by building on a previously acquired taste for the opposite, in order to make its students read for the purpose of higher life standards.

A prominent aim of the ninth year is to extend the pupils' acquaintance with literature by building upon their past experience. If that past experience has been meagre, trashy, or what not, the ninth year aims to overcome it and to get the pupils started on the royal road to literary appreciation by appealing to individual experiences and interests. The next three years' study of American and English authors and the study of literary types aims to lay the solid foundation for future reading. "He who loves not books before he comes to thirty years of age will hardly love them enough afterwards to understand them." (Clarendon.) If, as the economists tell us, the future generation will have a greater number of leisure hours, the high school literature course ought to prepare for the use of some of that leisure time. An idle mind is a menace to society.

One test, therefore, of the English course of study will be whether it has the desired effect upon the leisure time reading, supplementary reading, recreational reading, or whatever individual schools choose to call it. Student choices will prove whether "it is nearly an axiom that people will not be better than the books they read," and whether tastes are being created.

II. "Points" in Reading

The word "point" has been used in the course in connection with reading materials and lists with the following interpretation in mind: One point equals 100 pages of ordinary fiction or 50 pages of non-fiction material. By following this general rule, and by using his own knowledge of the relative difficulty of books on the reading list, the teacher should be able to determine without much difficulty what credit should be allowed each student for his supplementary reading. Many good teachers object to placing in the hands of pupils a reading list which shows the credit allowed for each book.

A permanent record of all supplementary reading done from semester to semester ought to be on file so that succeeding teachers will have a check on what the student has read previously. Such a procedure will eliminate the tendency of some students to reread books for additional credit, and what is more important, will show development or progress in the pupil's reading field. Teachers are sometimes shocked when good students choose rather juvenile books. Checking usually reveals that for some reason or other pupils have not had the opportunity or they did not choose to read them earlier but have an honest desire to do so at the present time.

III. Development

Another responsibility, and a heavy one for the English teacher, is that of oral interpretation of literature; that is, creating taste by reading aloud, particularly by the teacher. This may have been what Emerson meant by creative reading. Teachers of music have as their first aim, "The enrichment of the lives of the children and youth who come into their classroom through a close association with good music." (Grace Van Dyke in the N. E. A. Journal, December, 1930.) "Appreciation (of music) cannot be taught; it must be caught." Creative listening is good for music students. Isn't the general principle good for literature students? If so, the oral interpretation of good literature by pupils and teachers needs more attention than many schools seem to be giving it.

Montana University instructors regret that the students who come to them cannot read accurately or interestingly, which means they do not get the thought correctly for themselves and consequently they do not feel interested enough to express the emotional qualities.

As a result, much of the poetry taught in high school literature, and considerable is found in the average high school course, frequently does not appeal to students. Neither youth nor age can feel and appreciate that which it does not understand. Oral interpretation "puts it over" if the reading is well done, and English teachers ought to be able to set good examples for their students. Are they doing it? And are they encouraging students to read as if they felt and wished to make their hearers feel the lines they read? "We needs must love the highest when we see it" may be restated, "We needs must love the highest when we hear it."

Dictation exercises in composition are highly recommended to improve oral and written speech through ear training; oral interpretation of literature produces a similar effect upon the student's own interpretation of great literature and aids him in expressing his ideas forcefully and clearly because his ear has been trained to dislike crude, vague statements.

It is not to be expected that the present course will be followed in every detail. Although titles are suggested for each unit or type of work, no school is bound to confine itself to these; it should, however, maintain the standards set by those titles. Likewise, no school need adhere to quantitative assignments; individual differences must be considered in upholding the standards here given. English teachers must be on the alert if this or any course is to be of aid in raising the level of the teaching of literature. The burden of the English teacher is heavy. Therefore, the English teacher must plan carefully so that his work becomes not a burden but an art to teach an art. The housewife of today has profited by labor-saving devices; so should the teacher. More planning—less drudgery! Less teacher criticism—more student correction in the classroom! Fewer notebooks—better eyesight and better dispositions for all concerned.

IV. The Teaching of Literature

While a full discussion of the subject of the teaching of literature cannot be attempted in this course of study, a few important suggestions are given here for the choice of literary material and the treatment of the common types of literary production in the course.

A. Aims

The bulletin on reorganization reports that the study and reading of literature should "quicken the spirit and kindle the imagination of pupils, open up to them the potential significance and beauty of life, and develop habits of weighing and judging human conduct and of turning to books for entertainment, instruction, and inspiration as the hours of leisure may permit."

The following is a more exact statement of the aims to be accomplished in the study of literature:

1. To aid the student to acquire the habit of reading good literature as a means of extending his field of experience, enriching and intensifying his imaginative and emotional life
2. To aid the student to find literature to which his highest emotional and intellectual interests will respond
3. To teach the student to read rapidly and understandingly as a means of exploring the wide field of literature
4. To reveal to the student the possibilities of intelligence, emotion, and imagination in oral interpretation, and to give him practice in this useful art
5. To cultivate high ideals of life and conduct through the pupil's reaction to the presentation of literature for study
6. To give the student an opportunity to discover individual creative abilities

B. Selection of materials

Literature chosen for class study should fulfill these requirements:

1. It should make a natural appeal to the interest of the student
2. It should be above the level of the pupil's unguided enjoyment
3. It should furnish material for the development of high ideals of conduct and culture
4. It should provide a variety of literary types
5. It should, in the majority of cases, represent a part of that body of literature which the secondary schools of America have made a common culture, but leave a place for the study of a liberal amount of modern writing

C. Suggested procedure in teaching the classics

1. Poetry

- a. Do not study the lyric too exhaustively. Read the selection as rhythmically and sympathetically as possible. Trust that the pupils will catch the spirit. Explain unknown expressions or allusions before reading aloud.
- b. Prepare carefully the approach to the study of each poem
- c. Teach the poem as a whole, not in isolated parts
- d. Do not assume that all pupils will get the same ideas from a poem
- e. Encourage pupils to express their opinions honestly
- f. Ask your pupils to pick out lines or phrases of unusual beauty

2. Drama

- a. Prepare the class for the study of a play by discussing some of the following subjects: the author; importance of this work; its relation to other plays; general tone; central theme; principal characters.
- b. Try to have the pupils visualize the acted play
- c. Have students read in parts, and use other methods of oral interpretation freely
- d. Lead your pupils to appreciate the importance of character study
- e. Suit the study of plot to the grade and capacity of the students

3. Essay

There are two general types of essays, each of which will require somewhat different treatment.

a. Informal essay

- (1) Discuss the interesting parts, such as the author's views on life and character
- (2) Direct the attention of the class to the best passages
- (3) Note any significant facts about the author's style

b. Formal essay

- (1) Read rapidly to get the author's purpose, the general style, and main divisions of thought
- (2) Read carefully, a second time, to better understand and get the full meaning
- (3) Give particular attention to the author's style, determining the reasons why this essay deserves special consideration
- (4) Read best passages aloud

4. Short story

- a. Read the short story rapidly as the author intended it should be read
- b. Find the features of the story which grip the interest
- c. Emphasize, in most cases, character portrayal, local color, and action
- d. Lead the student to see that a good short story is a model of brevity and concentration

5. **Novel**

Because the novel is a combination of many different kinds of narration, it is the most difficult form of prose to teach effectively.

a. Prepare the student for the study of the novel by arousing interest in and calling attention to, significant facts about the author; indicating some important features to be looked for in the work; making comparisons with other works

b. Have your students read the novel through rather rapidly to take advantage of their natural interest

c. Try to make events, scenes, and characters real to the class

d. Teach the novel in sections and unify it by reviewing the whole

e. Concentrate on important passages and qualities of the story

f. Do not attempt technical studies of plot

g. Have pupils write questions on material studied. Discuss these in class.

D. Suggested procedure in teaching the History of Literature

Not more than one-sixth to one-fifth of the total time spent on literature should be devoted to history and biography. The emphasis should always be placed on the literary selections studied and not on the text account of the author. A study of the history of literature and class discussions are valuable in giving background to the reading. Do not spend too much time on unimportant periods in studying history and literature. This applies particularly to the early periods of both English and American Literature. You will generally find it expedient to omit some parts of the ordinary text and enlarge on others.

An outline showing the relation between the history of literature and the selections read and studied should be in the hands of each student. If a satisfactory outline is not provided in the text it should be mimeographed. This outline should indicate in parallel columns the important forces, personages, and movements that gave literature its being.

NINTH GRADE LITERATURE SEMESTER

A. Introductory statement

The primary purpose of the Ninth Grade Literature Semester is interpretation and appreciation of literature. The teacher should work to inculcate in the students a delight in reading and a lively interest in books, in order to develop a real desire to write and speak effectively. Oral and written work should be continued and the principles of composition and the technique previously studied should be practiced. In all compositions, clearness, energy, individuality and accuracy in minimum essentials should be stressed. The reading should give the material for the oral and written compositions in this semester. The teacher should neither teach the classics too analytically nor should he allow students to read so rapidly that they learn little definitely.

B. Special aims

1. To teach the pupils to enjoy the selections of literature listed for study and supplementary reading this semester
2. To extend the pupil's acquaintance with literature in different forms, including some recognized masterpieces
3. To develop reading skills and attitudes in building up effective work habits
4. To teach the pupil to recognize the main and the minor points of a selection
5. To open to the pupil new fields of attractive reading in non-fiction

C. Attainments

1. **Literature** (four-fifths of the semester)
   a. To study at least one selection or collection of writings from each of the groups listed
   b. To memorize at least seventy-five lines of poetry and prose from the selections listed
   c. During this semester and the ninth grade composition semester, to earn a minimum of twenty points in supplementary reading, which should be so distributed as to represent not only literary value but to furnish high ideals of conduct and give useful information on life problems and interests
2. **Composition and Oral English** (one-fifth of the semester)
   a. To write at least three themes of not less than fifty words each, under direct supervision of the teacher; and two themes of not less than one hundred and fifty words each, outside of class hours
   b. To prepare and deliver a minimum of two oral themes, each of at least one minute in length
   c. To prepare and deliver four short selections in interpretative reading. These should generally be taken from the literature studied this semester.

D. Procedure

Pupil interest should be predominant in ninth grade literature, for without it little good can be accomplished and a great deal of harm may be done. With the children of this age, the dramatic instinct and the interest in epic and romance is strong. They should learn to read imaginatively. Our aims and ideals may be just as high even if we do not expect that each one will get the same benefit from reading. With this in mind, a course has been outlined which will leave much room for flexibility, and opportunity for the teacher to give instruction which will bring the greatest returns. While selections for class study have been grouped, in part by types, this does not mean that literary form should be emphasized. An informal acquaintance with types is all that is necessary at this time. Content is relatively important in the first year of high school. It is not necessary or perhaps advisable that each group be presented as a unit; any schedule of class work may be followed which will suit the growing interests of the students. Certain literary selections, which it is almost universally agreed belong in the ninth grade, have been listed and recommended for study. Much new material has also been included. That appearing under **Miscellaneous Poetry** and **Miscellaneous Prose** should be chosen for its spirit and message and should be read rapidly. For the guidance of the teacher in making selections to be studied and read, we should like to recommend the suggestion given by a committee of the North Central Association whose report on College Entrance Requirements in English was published in the North Central Quarterly, March, 1931:

> "For the general reading for this and the following grades" (refers to 7th, 8th and 9th grades) "there should be provided a wide range of books, papers, and magazines dealing with
>
> 1. Wholesome Living
> 2. Worthy Home Membership
> 3. Vocations
> 4. Citizenship
> 5. Worthy Use of Leisure
> 6. Right Conduct."

The tenth grade literature semester deals entirely with American literature. Since the reading interests and abilities of high school pupils cover a wide range, many selections will be found listed which would be equally suitable for the ninth grade. Some of the tenth grade selections may be used for the ninth grade as long as actual duplication of work is avoided.

The time schedule for the literature semesters of the first three grades allows for seventy-two days to be devoted to literature and eighteen days to interpretative reading, oral, and written composition.

E. Content

1. Short story (six days)

It is difficult and perhaps not fair to give a list of short stories for class study to which a teacher is asked to restrict himself. Convenience and economy will in most cases make the use of a standard anthology advisable. Due care should be taken to see that the best authors are represented and that duplication in different grades is avoided.

Andrews	Selected Stories
Balzac	Christ in Flanders
Barrie	A Window in Thrums
Butler	Pigs is Pigs
Cobb	Boys Will be Boys
Conrad	Selected Stories
Davis	Gallegher
Daudet	The Siege of Berlin The Last Lesson
Doyle	How Brigadier Gerard Captured Saragossa

Galsworthy	Quality
Hale	The Man Without a Country
O. Henry	Selected Stories
Hugo	Gavroche
Kelly	A Christmas Present for a Lady
Kipling	Wee Willie Winkie
Tolstoy	Three Arshines of Earth
Twain	A Double Barreled Detective Story

2. **Novel** (ten days; choose one)

Boyd	Drums
Dickens	Nicholas Nickleby
Eliot	Silas Marner
Kipling	Captains Courageous
	Kim
Stevenson	Kidnapped
	Treasure Island

3. **Drama** (ten days; choose one)

Barrie	Peter Pan
	Quality Street
Drinkwater	Abraham Lincoln
MacKaye	Jeanne d'Arc
Maeterlinck	The Blue Bird
Shakespeare	Julius Caesar
	Merchant of Venice

4. **Epic material** (nine days)

The teacher is likely to find that the pupils are already familiar with some of the material listed below. He should ascertain what epics and Old Testament narratives have been studied in the grades, if any, and make his choices for study accordingly.

Homer	Odyssey (Palmer's translation)
	Iliad (Bryant's translation) (Especially Books 1, 6, 22 & 24)
Old Testament Narratives	

5. **Long narrative poems** (six days maximum allowance; suit time to selection studied)

Arnold	Sohrab and Rustum
Scott	Lady of the Lake
Tennyson	Enoch Arden

6. **Miscellaneous poetry** (ten days)

The titles listed below are considered among the most suitable for the ninth grade. It is hardly expected that the teacher will try to limit himself to these selections.

Browning	Herve Riel
Bryant	Thanatopsis
Burns	Cotter's Saturday Night
	For A'That and A'That
Chapman	Where the West Begins
Cowper	John Gilpin's Ride
Field	The Little Peach
Foss	House by the Side of the Road
Frost	Mending Wall
	Death of the Hired Man
Dunbar	Angelina
Guest	It Can Be Done
Holmes	Ballad of the Oysterman
Hunt	Abou Ben Adhem

Kipling	Ballad of East and West
	Recessional
	L'Envoi
Longfellow	King Robert of Sicily
Lindsay	I Want To Go a Wandering
Lowell	Patterns
Markham	Man With the Hoe
Miller	Defense of the Alamo
Noyes	Call of Spring
Seeger	I Have a Rendezvous With Death
Shelley	To a Skylark
Thayer	Casey at the Bat
Tennyson	Break, Break, Break
Untermeyer	Caliban in the Coal Mines
Van Dyke	Home Thoughts From Europe
	A Mile With Me
Whittier	Maud Muller
Wordsworth	The Daffodils

7. **Miscellaneous prose** (ten days)

If library facilities permit, this reading may be made largely an individual project for each member of the class and the pupils allowed a great deal of liberty in choosing their books. Under this plan the class periods would be used for giving general instructions and individual help, guiding discussions, and listening to reports. This is probably the most satisfactory way to organize the work. If desired, two or three books may be chosen for study by the entire class.

Some of the books listed may be used to fulfill requirements in other courses, especially in natural science and social science. This is a desirable correlation.

Addams	Twenty Years at Hull House
Bachman	Great Inventors and Their Inventions
Becker	Adventures in Reading
Center	Worker and His Work
Davis and Getchell	Stories of the Day's Work
Fisher and Fisk	How to Live
Ford	True George Washington
Garland	Boy Life on the Prairie
Golding	Story of David Livingstone
Grenfell	Doctor of Labrador
	Adrift on An Ice Pan
Hudson	Book of a Naturalist
Kitson	How to Use Your Mind
Lamb	A Dissertation on Roast Pig
MacMillan	Pathfinders of the West
Mills	Spell of the Rockies
Marden	Choosing a Career
Meadowcroft	Boy's Life of Edison
Muir	Story of My Boyhood and Youth
	Stickeen
Rinehart	Tenting Tonight
	Through Glacier National Park
Riis	Making of An American
Schultz	My Life as An Indian
Slusser, E. Y.	Stories of Luther Burbank
Slosson	Creative Chemistry
Surridge	India
Tarbell	The Business of Being a Woman
Wallace	Lure of the Labrador Wild

8. **Newspapers and periodicals** (four days)
    - Montana Newspapers
    - A Good Metropolitan Daily
    - The American
    - Literary Digest
    - Outlook
    - Atlantic Monthly
    - The Scholastic
    - Reader's Digest
    - Magazine World
    - Time
9. **Library training** (two days)
10. **Grammar and composition** (sixteen days)
11. **Examinations and reviews** (seven days)

TENTH GRADE LITERATURE SEMESTER

(American Literature)

A. Introductory statement

The emphasis in the Tenth Grade Literature Semester should be upon the literature and the types of literature represented by the American writers. The study of American authors should acquaint the student with national ideals, arouse his pride in America, and enable him to better understand the writings of the present in the light of those of the past. As in the ninth grade, compositions (oral and written) based on their readings should be carefully prepared by students. In the literature semesters, students should not be allowed to forget what they have learned in their composition semesters. Constant practice and application of grammatical usage, technique and effectiveness in composition need emphasis. The oral and written reports on readings should not follow some mechanical outline, but should vary in procedure and should deal with different phases. Attractive opening sentences and original concluding comments should be insisted upon in all reports. Students' talks before classes should become longer and more varied. Non-literary programs, such as the discussion of current events or the telling of personal experiences, would add variety.

B. Aims

1. To fulfill the general aims already given for the study of literature
2. To make the pupil better acquainted with the literature of America
    a. To reveal to the pupil the fields in which American writers have been pioneers
    b. To arouse interest in some of the best American contemporary writers
3. To lead the pupil to a better understanding and greater appreciation of American ideals, of the development of our nation, of our heroes and traditions, of our relation to and interest in humanity throughout the world, as shown in the lives and writings of great Americans

C. Attainments

1. To spend the suggested time in the study of the different types of literature listed, doing the required amount of work and giving reasonable evidence of mastery
2. To spend approximately one-sixth of the total class periods in studying the history of American literature and biographies of prominent American writers
3. To memorize at least sevent-five lines of prose and poetry from the selections listed
4. To earn a minimum of twenty points in supplementary reading which shall be distributed among the different groups listed
5. To write at least three themes, of not less than fifty words each, under the direct supervision of the teacher; and two themes of not less than one hundred and fifty words each, to be prepared by the student outside of class hours

6. To prepare and deliver a minimum of two oral themes, each, of at least two minutes in length
7. To prepare and deliver four short selections in interpretative reading. These should usually be taken from the literature studied this semester.

D. Procedure

1. General

While this outline is planned for a type study, if the teacher prefers, the literature may be arranged from the viewpoint of pupil interest under such headings as: adventure, out-of-doors, human nature, humor and fancy, America's past, America today. Another plan may be the grouping of selections under such project headings as: foundation of the nation, the period of definition and conflict, new frontiers, our nation today.

If desired, the type study may be preceded by a brief review of Colonial literature as the beginning of American literature and of Revolutionary literature with emphasis on the oratory of the period. This should not take more than two weeks' time.

When studying the writings of such authors as Longfellow, Whittier, and Holmes, associations may be built up between the new material and already familiar selections by impromptu reading of some well-known passages.

2. History of literature

The study of the history of literature should be secondary to the study of the literature itself. It should amount to no more than a general impression of how the literature reflects life and of how national developments have influenced our literature. If Colonial literature is studied at all, the history will be given more emphasis here and in the Revolutionary period than elsewhere. A plan of using the chronological development as a review project may be used.

3. Biography

Biographies, too, are subordinated to the writings, though students should be taught to feel an interest in the men and women who have made our literature. The study should be limited to a few writers whose works or lives have some special appeal for the student or those whose writings can best be understood with a background of biographical information. These suggestions may be helpful:

a. Biographies studied after arousing interest in writings—Longfellow, Whittier, Holmes

b. Biographies interesting because of types revealed—Irving, Thoreau

c. Biographies, a knowledge of which helps to understand writings—Poe, Hawthorne, Emerson

A great deal of biographical material may be introduced indirectly when enough interest has been aroused concerning the author through appreciation of his writings. In the case of Poe (poems), Hawthorne, and Emerson, it might be advisable to study something about the author himself, before attempting his writings; in most cases, however, the interest in biography should be stimulated by study of writings.

4. Interpretative reading

This work should be done principally while studying poetry. In the beginning the students should be taught to appreciate the importance of interpretation from listening to the teacher's reading of selections.

The time schedule for the literature semesters of the first three grades of high school allows for seventy-two days to be devoted to literature and eighteen days to interpretative reading, oral and written composition.

E. Content

1. **Short story (ten days; choose many)**

The short story is emphasized in the first half of the semester. More time is devoted to this type than to any other form of prose during the semester since it is America's own contribution to modern world literature. The development of the American short story should be made clear; this may be undertaken as a review project or as the study progresses. A minimum of two stories, and a maximum of four stories a week, should be taught.

1. **Short stories**

Aldrich	Goliath
Freeman	Revolt of Mother
Gale	Bill
Harte	Tennessee's Partner
Hawthorne	Lady Eleanor's Mantle
	Ambitious Guest
O. Henry (Sidney Porter)	A Service of Love
	Third Ingredient
Irving	Devil and Tom Walker
	Legend of Sleepy Hollow
	Rip Van Winkle
	Tales of a Traveller
	The Alhambra
Kilmer	Holy Ireland
Page	Madame Delicieuse
Poe	Gold Bug
	Fall of the House of Usher
	Descent into the Maelstrom
Stockton	The Lady or the Tiger
Van Dyke	The Other Wise Man
Cable	Meh Lady

2. **The novel** (ten days; study one novel, discuss others read outside)

Aldrich	A Lantern in Her Hand
Cooper	The Last of the Mohicans
	The Spy
Hawthorne	The House of Seven Gables
Howells	The Rise of Silas Lapham
Ferber	So Big
Churchill	The Crisis
Morrow	We Must March

3. **The drama** (ten days; study one long play and one short one)

Belasco	The Return of Peter Grimm
Gale	Neighbors
Fitch	Nathan Hale
Lewis	Contemporary One-Act Plays
Mayorga	Representative One-Act Plays by American Authors
O'Neill	Ile
	Where the Cross Is Made
Peabody	The Piper
Thomas	Copperhead

4. Poetry (fifteen days; select many titles)

a. Narrative poems

Longfellow	Skeleton in Armor
	Wreck of the Hesperus
	Tales of a Wayside Inn (in part)
Lowell	Vision of Sir Launfal
Miller	Kit Carson's Ride
Neihardt	Song of Hugh Glass
	Song of Three Friends
Sill	Opportunity
	The Fool's Prayer
Whittier	Pipes of Lucknow
	Telling the Bees
	Snow-Bound
	In School Days

b. Lyric poetry

Bryant	To a Waterfowl
	Forest Hymn
Field	Little Boy Blue
	Dutch Lullaby
Emerson	Rhodora
	Each and All
Kilmer	Trees
Lanier	Song of the Chattahoochee
	Tampa Robins
Lindsay	Santa Fe Trail
	Abraham Lincoln Walks at Midnight
	Niagara
	Light O' the Moon
Longfellow	Day Is Done
	Arrow and Song
Lowell	Painter on Silk
Miller	Columbus
Millay	Travel
	God's World
Neihardt	Battle Cry
Poe	The Raven
	Eldorado
	The Bells
Sandburg	Fog
	Chicago
	Clean Curtains
	Skyscraper
Whitman	When Lilacs Last in the Dooryard Bloomed
	Pioneers, O Pioneers
	I Hear America Singing
Bates	America the Beautiful
Holmes	Chambered Nautilus
	Last Leaf

5. Miscellaneous prose (nine days)

a. Biography

Bok	Americanization of Edward Bok
	A Dutch Boy Fifty Years After
Franklin	Autobiography
Garland	Trail Makers of the Middle Border
	Son of the Middle Border
Steiner	From Alien to Citizen

b. Travel and adventure

Bercovici	Around the World in New York
Halliburton	Royal Road to Romance
London	Cruise of the Snark
Princess Der Ling	Two Years in the Forbidden City
Roosevelt	African Game Trails
	Through the Brazilian Wilderness
Stefansson	My Life with the Eskimo
Stevenson	In The South Seas
	Amateur Emigrant

c. Oratory

Lincoln	Selected Speeches
Roosevelt	The Strenuous Life
Wilson	Flag Day Address
Webster	First Bunker Hill Oration
Washington	Farewell Address

"Liberty, Peace, Justice" (collection)......Houghton Mifflin Co.
"American Patriotism" (collection)..................Allyn and Bacon

6. **History of American literature and biography** (allow nine days)

7. **Newspapers and periodicals** (four days)

   Montana Papers
   A Good Metropolitan Daily
   Literary Digest
   American Magazine
   Atlantic Monthly
   The Scholastic
   Reader's Digest
   Magazine World
   Time
   Outlook

8. **Examinations and reviews** (seven days)

9. **Grammar, composition, and interpretative reading** (sixteen days)

ELEVENTH GRADE LITERATURE SEMESTER

(English Literature)

A. Introductory statement

The chief emphasis in the Eleventh Grade Literature Semester is upon the interpretation and appreciation of English Literature studied in types, or not, as the teacher thinks best. The history of the literature should increase the interest and make interpretation easier. Interest in literature must not be allowed to cause any lowering of composition standards. The requirements of preceding semesters in oral and written work must be maintained, and in addition the student should show improvement in oral rendering of poetry, and in making concise and attractive reports on his readings. Correct spelling and pronunciation of the names and terms peculiar to this year's work should be a part of the student's work.

B. Aims

1. To fulfill the general aims already given for the study of literature
2. To give the pupil a better acquaintance with the literature of England and the various types of English literature
3. To reveal English life and character as it is expressed through the various types of English literature
4. To show the development of the different forms of English literature from the earlier to later times
5. To relate the study of literature to present-day problems

C. Attainments

1. To spend the suggested time in the study of the different types of literature listed, doing the required amount of work, and giving reasonable evidence of mastery
2. To spend approximately one-fifth of the total time devoted to class preparation in studying the history of English literature applicable to the selections read and studied this semester
3. To memorize at least seventy-five lines of prose and poetry from the selections listed
4. To earn a minimum of twenty points in supplementary reading which shall be distributed among the different groups listed
5. To write at least three themes, of not less than fifty words each, under the direct supervision of the teacher; and two themes, of not less than two hundred words each, outside of class hours
6. To make at least six platform appearances during the semester to deliver oral compositions and interpretative reading assignments. Oral compositions should be at least three minutes in length.

D. Procedure

Since the course outlined for the junior year consists of a study of English literature, a definite time has been set aside for the study of biography and the history of English literature. However, it was not intended that this be considered as a separate division but rather that it be related to the literary selections read and studied all through the course. The history of some of the early periods in English literature might be made an exception to this method and taken up as a short unit.

While most of the selections for study have been listed as types, undue emphasis should not be placed on this phase of the work. A knowledge sufficient to recognize the common types of literature and to know their outstanding features should meet the requirements at this time. Most students will take the regular fourth year of English which emphasizes types.

The teacher may find it practicable to vary the arrangement of the units of work given here in literature, or even to break up some of them. Each school should adapt the schedule to its special needs and conditions. The different time allotments are not intended to be interpreted strictly but it is hoped they will serve as a reliable guide to the teacher.

The time schedule for the literature semesters of the first three grades allows for seventy-two days to be devoted to literature and eighteen days to interpretative reading, oral, and written composition.

E. Content

1. **Short story** (six days; choose several)

   The following list of titles is suggestive. The use of volumes of standard collections of short stories may necessitate substitutions.

Barrie	Two of Them
Bennett	A Letter Home
Conrad	Inn of Two Witches Youth
Galsworthy	The Pack
Hardy	Wessex Tales
Jacobs	The Monkey's Paw
Kipling	Moti Guj—Mutineer The Man Who Would be King
MacLaren	A Doctor of the Old School
Ruskin	King of the Golden River
Stevenson	The Sire de Malétroit's Door
Wells	Country of the Blind

2. **Novel** (ten days; choose one)

Blackmore	Lorna Doone
Dickens	David Copperfield Hard Times
Eliot	Adam Bede Mill on the Floss
Parker	The Right of Way
Scott	Ivanhoe
Stevenson	Black Arrow
Walpole	Fortitude
Doyle	The White Company

3. **Poetry** (sixteen days; choose a variety of selections)

Browning	How They Brought the Good News from Ghent to Aix The Lost Leader Home Thoughts from the Sea
Byron	She Walks in Beauty Like the Night
Carman	Outbound
Coleridge	Rime of the Ancient Mariner
Burns	To a Mountain Daisy To a Mouse Tam O'Shanter

Dobson	Prose and Rime
Goldsmith	The Deserted Village
Gray	Elegy in a Country Churchyard
Henley	Invictus
Housman	Reveille
Jonson	To Celia
Keats	The Eve of St. Agnes
	Ode to a Grecian Urn
	Sonnets
Moore	Oft in the Stilly Night
Masefield	Laugh and be Merry
	The Rider at the Gate
Newman	Lead Kindly Light
Noyes	The Moon Is Up
Shelley	Hymn to the Night
	The Cloud
Southey	After Blenheim
Suckling	Constancy
	Encouragements to a Lover
Tennyson	Selections from Idylls of a King
	The Princess
Wordsworth	Ode to Duty
	She Was a Phantom of Delight
	Sonnets

4. **Essays** (twelve days; choose several)

Arnold	Translating Literature Into Life
Barrie	Courage
Bryce	Promoting Good Citizenship
Addison	Selected Essays
Chesterton	The Man Who Thinks Backward
Huxley	On a Piece of Chalk
	A Liberal Education
Galsworthy	American and Briton
Ruskin	The Sky
Stevenson	An Apology for Idlers
	Travels with a Donkey
Macaulay	Selected Essays
Muir	Boyhood of a Naturalist
Schurz	Abraham Lincoln
Lamb	Selected Essays

5. **Drama** (eleven days; choose one long play, review others)

Galsworthy	Strife
	The Silver Box
Lord Dunsany	A Night at an Inn
	The Lost Silk Hat
Goldsmith	She Stoops to Conquer
Kennedy	The Servant in the House
Masefield	The Locked Chest
Shakespeare	Macbeth
	Twelfth Night
Shaw	You Never Can Tell
Sheridan	The Rivals
	The School for Scandal
Sutro	The Man on the Kerb
Yeats	Land of Heart's Desire
	A Pot of Broth

6. **History of English Literature** (twelve days)
7. **Interpretative reading, oral and written composition** (sixteen days)
8. **Reviews and examinations** (seven days)

TWELFTH GRADE LITERATURE AND COMPOSITION

(Types of Literature)

A. Introductory statement

The chief emphasis of the Twelfth Grade Literature and Composition is upon the study of types of literature. Sufficient work in oral and written composition should be given to maintain standards high enough to enable the student to enter college.

B. Aims

1. To fulfill the general aims already given for the study of literature
2. To develop in the pupil a taste for and some technical knowledge of the several types of literature
3. To lead the student to discover through study of masterpieces of literature his own social, economic, political and moral obligations
4. To encourage the pupil to attempt creative work in some of the more simple types of literature
5. To stimulate in the pupil a desire to improve the quality of his thinking and to express his opinion in clear, definite statements
6. To have the pupil acquire by means of a thorough review a mastery of the essentials of grammar and composition, at least sufficient for college entrance

C. Attainments

1. To spend the suggested time (approximately twenty-four weeks) in the study of the different types of literature listed, doing the required amount of work, and giving reasonable evidence of mastery
2. To memorize at least seventy-five lines of prose and poetry from the selections listed
3. To earn a minimum of twenty points in supplementary reading which shall be distributed among the different groups listed
4. To have sufficient reviews in grammar, punctuation and rhetoric, to do enough drill work, and to write a sufficient number of themes to establish the fundamental skills of composition

D. Procedure

The literature work of the twelfth grade consists of a study of types of literature. Since grammar and composition in this grade will consist largely of a review and development of the principles covered in the preceding years, no specific directions for this work are given. Two-thirds of the time has been allotted for the study of literary types and one-third for review and practice in applying the principles of grammar and composition. It may be found expedient to vary this arrangement somewhat. The wise teacher will be guided by the needs and interests of his students as well as by the prevailing ideas of educational objectives. The year should always begin with the study of literature and end with a good review of grammar and composition. The plan suggested here, or a similar one, has been used successfully for a number of years in some of the best high schools in Montana and elsewhere.

It will hardly be found practicable to make a complete division of time units for teaching of literature and composition. To some extent it should be profitable to correlate the two in the senior year. How much of this should be done must depend on the interests and ability of the students, and the judgment of the teacher. Many students will be glad to try their hand at writing imitation ballads, short poems, one-act plays and essays. Miscellaneous tests and drills in grammar and rhetoric and assignments for the writing of different types of themes, given while the literature work is in progress, will keep the students in practice and reveal their abilities and shortcomings in composition. This information will enable the instructor to plan the work for the final review more intelligently.

The time schedule for the twelfth grade allows for 120 days to be devoted to literature and 60 days to grammar and composition. As indicated above, the teacher will need to do more independent planning of the program in this grade than in the preceding ones. The suggestions given below in regard to time allotments and content of the course should furnish a good basis on which to outline the work of the senior year.

E. Content

It should be understood that a part of the time allowed for the study of each group should be taken for a review and discussion of the literary type as a whole.

1. **Epic** (fourteen days)

Selections from

Unknown	Beowulf
Homer	Iliad
Milton	Paradise Lost
Noyes	Drake

2. **Metrical romance** (four days)

Weston	Sir Gawain and the Green Knight
Spenser	Faerie Queene
Scott	Marmion
Moore	Lalla Rookh

3. **Ballad** (eight days)

Sir Patrick Spens
Blind Horn
Robin Hood and the Monk
Wife of Usher's Well
Babylon: or The Bonnie Banks of Fordie
The Twa Sisters
The Cruel Brothers

Imitation Ballads

Campbell	Lord Ullin's Daughter
Keats	La Belle Dame Sans Merci
Noyes	Forty Singing Seamen
Scott	Rosabelle
Southey	The Well of St. Keyne

4. **Metrical tale** (four days)

Chaucer	Canterbury Tales (selections)
Byron	Waterloo, from Childe Harold
Gibson	The Brothers (from "Fires")
Noyes	The Highwayman

5. Lyric poetry (fifteen days)

a. The ode

Dryden	Alexander's Feast
Gray	Ode to Spring
Keats	Ode to a Nightingale
Kipling	Avenge, O Lord, Thy Slaughtered Saints
Markham	Lincoln, The Man of the People
Shelley	Ode to the West Wind
Van Dyke	God of the Open Air
Wordsworth	Ode on Intimations of Immortality

b. The sonnet

Selections from Shakespeare, Milton, E. B. Browning, Keats, Wordsworth, Longfellow, and Van Dyke.

c. The elegy

Browning	Prospice
Milton	Lycidas
Poe	Annabel Lee
Scott	Coronach
Shakespeare	From Cymbeline
Tennyson	In Memoriam (selections)
Whitman	O Captain, My Captain

d. The simple lyric

Brooke	The Soldier
	The Dead
Byron	So We'll Go No More a-Roving
	When We Two Parted
Browning	The Patriot
	Epilogue to Asolando
Carman	A Vagabond Song
Clough	Say Not the Struggle Naught Availeth
Dyer	My Mind to Me a Kingdom Is
De la Mare	The Listeners
Frost	The Road Not Taken
	Birches
Don Marquis	From the Bridge
Housman	Loveliest of Trees
Milton	L'Allegro
	Il Penseroso
Stevenson	Lost Youth
	The Celestial Surgeon
	Requiem
Swinburne	Etude Realiste
	A Ballad of Dreamland
Wordsworth	My Heart Leaps Up
	The Solitary Reaper

e. The song

Burns	Auld Lang Syne
	Scots Wha Hae
	Ae Fond Kiss
Scott	Hail to the Chief (from the Lady of the Lake)
Field	Little Blue Pigeon
Howe	Battle Hymn of the Republic
Kipling	On The Road to Mandalay
Key	Star Spangled Banner
Longfellow	The Day Is Done
	The Curfew
Lathbury	Day Is Dying in the West
Lyte	Abide With Me

Moore	The Harp That Once Through Tara's Halls The Last Rose of Summer
Noyes	Songs from "Drake"
Tennyson	Sweet and Low (from the "Princess") Tears, Idle Tears (from the "Princess") Ring Out Wild Bells (from "In Memoriam")

3. **Dramatic monologue** (two days)

Browning	My Last Duchess The Patriot
Kipling	The Feast of the Young Men
Noyes	The Barrel Organ

7. **Early dramatic poetry** (fifteen days; study one play; review others)

Anonymous	Everyman
MacKaye	Caliban by the Yellow Sands
Marlowe	Dr. Faustus
Milton	Comus
Shakespeare	Hamlet King Lear

8. **Modern drama** (seventeen days; study one long and one short play, review others)

a. **Longer plays**

Ibsen	An Enemy of the People A Doll's House
Noyes	Sherwood
O'Neil	Beyond the Horizon
Rostand	Cyrano de Bergerac Chantecler
Shaw	St. Joan

b. **Shorter plays**

Gibson	The Family's Pride
Lady Gregory	Spreading the News Rising of the Moon
Howells	The Mouse Trap
Synge	Riders to the Sea
Wilde	The Traitor
Yeats	The Hour Glass

9. **The essay** (ten days)

Addison	Selections from the de Coverley Papers
Bacon	Selected Essays
Carlyle	Essay on Burns
Emerson	Self Reliance Compensation
Grayson	Adventures in Contentment Adventures in Friendship
Hubbard	A Message to Garcia
Lamb	Dream Children Selected Essays
Stevenson	On Enjoyment of Unpleasant Places Selected Essays
Van Dyke	Selected Essays

10. **Novel** (fourteen days; choose one)

Austen	Pride and Prejudice
Cather	O Pioneers
Dickens	A Tale of Two Cities
Eliot	Romola
Thackeray	Vanity Fair
Wallace	Ben Hur
White	A Certain Rich Man

11. **Short story** (five days; choose several)

Galsworthy	Acme
Garland	Under the Lion's Paw
Hudson	Story of a Piebald Horse
Kipling	The Man Who Was
Maupassant	The Piece of String
	The Necklace
Poe	The Masque of the Red Death
	The Pit and the Pendulum
Stevenson	Markheim
Wells	Under the Knife

12. **Orations** (five days)

Burke	On Conciliation with America
Grady	The New South
Henry	Speech on a Resolution to Put Virginia into a State of Defense
Lincoln	Selected Speeches
Webster	Selected Speeches
Wilson	Selected Speeches
Roosevelt	Selected Speeches

13. **Oral and written composition** (total of fifty-eight days)

14. **Reviews and examinations** (nine days)

PART FOUR—SUPPLEMENTARY READING LIST

The supplementary reading list given below is not complete and is intended to be used as a basis on which each school can build up its own reading list. A number of good reading lists for high schools are available. Perhaps the best one at the present time is "Books for Home Reading in High Schools" (1930), published by the National Council of Teachers of English, 211 West Sixty-eighth Street, Chicago. Single copies of this list can be purchased for twenty cents or a price of fifteen cents is made for quantity orders. Through the courtesy of the publishers of the National Council reading list, many titles and classifications have been incorporated in the present supplementary reading list.

Some of the most desirable supplementary reading material may be selected from those titles which are listed for study or classroom work and have not been used for that purpose. In planning supplementary reading these should be considered in addition to the list given below or other lists used. The figures at the right indicate the years in which each book or selection should be read.

A. Miscellaneous prose fiction

	Year
Alice Adams, Tarkington	2–3–4
American, Linderman	1–2–3
Adventures of Sherlock Holmes, Doyle	2–3
Abbe Pierre, Hudson	2–3
Babbitt, Lewis	4
Birth, Gale	3–4
Beau Geste, Wren	4
Bottle Imp, Stevenson	1–2
Blazed Trail, White	1–2
Bridge of San Luis Rey, Wilder	3–4
Bealby, Wells	3–4
Boy's King Arthur, Lanier	1–2
Colonel Carter of Cartersville, Smith	2–3–4
Cricket on the Hearth, Dickens	1–2
Conqueror, Atherton	3–4
Covered Wagon, Hough	1–2–3
Circular Staircase, Rinehart	1–2
Cappy Ricks, Kyne	1–2–3
Clayhanger, Bennett	3–4
Cathedral, Walpole	3–4
Court of Boyville, White	1–2
Don Quixote, Cervantes	2–3
Dr. Jekyll and Mr. Hyde, Stevenson	2–3–4
Dombey and Son, Dickens	3–4
David Harum, Westcott	2–3
Death Comes for the Archbishop, Cather	2–3–4
Emigrants, Bojer	3–4
Ethan Frome, Wharton	4
Early Candlelight, Lovelace	1–2–3
East South East, Morley	1–2
Eben Holden, Bacheller	2–3
Fanny Herself, Ferber	3–4
Forever Free, Morrow	3–4
Far from the Madding Crowd, Hardy	3–4
Forsythe Saga, Galsworthy	4
Giants in the Earth, Rolvaag	4
Golden Age, Grahame	2–3
Gods of Yesterday, Bellah	1–2
Great Expectations, Dickens	3–4
Gentleman Player, Stephens	2–3
Golden Village, Anthony	2–3
Guy Mannering, Scott	1–2–3
Gilman of Redford, Davis	3–4
Henry Esmond, Thackeray	3–4
Helen with the High Hand, Bennett	2–3
Harbor, Poole	3–4
Helmet of Navarre, Runkle	1–2
His Own Country, Kester	2–3
Hoosier Schoolmaster, Eggleston	1–2

	Year
Hugh Wynne, Free Quaker, Mitchell	2–3–4
Indian How and Why Stories, Linderman	1–2
Inside of the Cup, Churchill	3–4
In the Days of Poor Richard, Bacheller	1–2
If I Were King, McCarthy	1–2
In Old Virginia, Page	1–2
Jalna, de la Roche	4
Java Head, Hergesheimer	3–4
Jane Eyre, Bronte	3–4
Jeremy, Walpole	1–2
Janice Meredith, Ford	1–2
Kenilworth, Scott	3–4
Kentucky Cardinal, Allen	1–2–3
Life on the Mississippi, Clemens	3–4
Les Miserables, Hugo	2–3–4
Little Minister, Barrie	1–2–3
Light that Failed, Kipling	3–4
Last Days of Pompeii, Bulwer-Lytton	1–2
Main Street, Lewis	3–4
Man from Home, Tarkington	3–4
Matriarch, Stern	4
Melting Pot, Zangwill	3–4
Mob, Galsworthy	3–4
Moby Dick, Melville	2–3–4
Men Like Gods, Wells	1–2–3–4
Marjorie Daw and Other Stories, Aldrich	1–2
Master of Ballantrae, Stevenson	3–4
Monsieur Beaucaire, Tarkington	1–2
Messer Marco Polo, Byrne	4
Magnificent Ambersons, Tarkington	2–3
My Antonia, Cather	2–3–4
Maria Chapdelaine, Hemon	2–3–4
North of 36', Hough	1–2–3
Newcomes, Thackeray	3–4
Nostromo, Conrad	4
Ninety-Three, Hugo	2–3–4
Nights with Uncle Remus, Harris	1–2
Old Creole Days, Cable	1–2
Ordeal of Richard Feverel, Meredith	4
Once Aboard the Lugger, Hutchinson	2–3
Oliver Twist, Dickens	2–3–4
Pathfinder, Cooper	1–2
Penrod and Sam, Tarkington	1–2
Pudd'nhead Wilson, Clemens	1–2–3
Pilgrim's Progress, Bunyan	1–2–3
Pierre and His People, Parker	2–3
Prester John, Buchan	2–3–4
Paul Bunyan, Stevens	2–3
Pickwick Papers, Dickens	3–4
Perennial Bachelor, Parrish	3–4
Pendennis, Thackeray	3–4
Quentin Durward, Scott	1–2
Quo Vadis, Sienkiewicz	3–4
Quare Women, Furman	1–2–3
Red Rover, Cooper	2–3
Riders of the Purple Sage, Grey	1–2
Romantic Comedians, Glasgow	3–4
Ramona, Jackson	1–2–3
Romance of Dollard, Catherwood	2
Reds of Midi, Gras	1–2
Red Badge of Courage, Crane	1–2–3–4
Scottish Chiefs, Porter	1–2
Scaramouche, Sabatini	2–3
Scarlet Letter, Hawthorne	3–4
Sea Wolf, London	2–3
Sand, James	1–2
Story of a Country Town, Howe	4
Sentimental Tommy, Barrie	2–3–4
Sussex Gorse, Kaye-Smith	4
Sky Pilot, Connor	2–3
Standish of Standish, Austin	1–2
Tales of the Alhambra, Irving	1–2
Three Black Pennies, Hergesheimer	3–4
Tartarin de Tarascon, Daudet	2–3
Typhoon, Conrad	2–3–4
Tom Sawyer, Clemens	1–2
Toilers of the Sea, Hugo	4
To Have and to Hold, Johnston	1–2–3
Talisman, Scott	1–2–3
Three Musketeers, Dumas	1–2
Tom Brown's School Days, Hughes	1–2
Undine, La Motte-Fouqué	1–2

	Year
Under the Red Robe, Weyman	1–2–3
Vandemark's Folly, Quick	2–3–4
Valley of Eyes Unseen, Collins	2–3
Virginian, Wister	1–2
Vicar of Wakefield, Goldsmith	1–2–3
Victory, Conrad	3–4
Westward Ho! Kingsley	3–4
War of the Worlds, Wells	1–2
When Knighthood Was in Flower, Major	1–2
With the Eagles, Anderson	1–2
With Fire and Sword, Sienkiewicz	1–2–3–4
Wing and Wing, Cooper	1–2
White Fang, London	2–3

B. Short stories

All short stories by O'Henry	1–2–3
All short stories by Mary Wilkins Freeman	1–2–3
All short stories by Edgar Allen Poe	1–2–3–4
All short stories by M. D. Post	1–2
Atlantic Narratives, Atlantic Monthly	1–2–3
American Short Stories, Baldwin	1–2–3
Best Russian Short Stories, Seltzer	4
Best Short Stories, O'Brien	1–2–3–4
Dawgs, Gray	2–3
French Short Stories, Schweikert	3–4
Great English Short Stories, Melville and Hargreaves	2–3–4
Great Detective Stories, Wright	1–2–3
Great Short Novels of the World, Clark	3–4
Garden Party and Other Stories, Mansfield	4
Luck of Roaring Camp, Harte	1–2
Main Travelled Roads, Garland	2–3
Modern Short Stories, Law	1–2–3
O. Henry Memorial Award Prize Stories, Society of Arts and Sciences (for various years)	1–2–3–4
Out of Gloucester, Connolly	1–2
Plain Tales from the Hills, Kipling	1–2–3
Revolt of the Oyster and Other Stories, Don Marquis	2–3
Roundup, Lardner	4
Representative American Short Stories, Jessup	1–2–3–4
Soldiers Three, Kipling	1–2–3
Set of Six, Conrad	1–2–3
Selected Short Stories, Fuess	1–2–3
Selections from the World's Greatest Short Stories, Cody	1–2–3–4
Short Stories of Today, Hanson and Gross	1–2–3
Short Stories, Old and New, Sheriff	4
Short Stories for English Courses, Mikels	1–2–3–4
Tutt and Mr. Tutt, Train	1–2–3
They of the High Trails, Garland	2–3

C. Longer plays

Arms and the Man, Shaw	4
As You Like It, Shakespeare	2–3–4
As a Man Thinks, Thomas	4
Barbara Fritchie, Fitch	2–3
Beggar on Horseback, Kaufman and Connelly	4
Caesar and Cleopatra, Shaw	3–4
Clarence, Tarkington	2–3–4
Comedy of Errors, Shakespeare	3–4
Climbers, Fitch	4
Daddy Long Legs, Webster	1–2
Disraeli, Parker	3–4
Emperor Jones, O'Neill	4
Everyman, Anonymous	4
Green Goddess, Archer	1–2
Great Adventure, Bennett	3–4
Henry IV (Parts I and II), Shakespeare	3–4
If I Were King, McCarthy	2–3
Justice, Galsworthy	4
Loyalties, Galsworthy	4
L'Aiglon, Rostand	4
Merely Mary Ann, Zangwill	2–3
Mr. Pim Passes By, Milne	3–4
Man of Destiny, Shaw	4
Melting Pot, Zangwill	4
Othello, Shakespeare	4
Peer Gynt, Ibsen	4
Peg o' My Heart, Manners	2–3–4
Trelawney of the "Wells"	2–3–4

D. Shorter plays, Collections

Atlantic Book of Modern Plays, edited by S. A. Leonard. Little, Brown and Company, Boston, Mass.
Contemporary One-Act Plays, edited by B. R. Lewis. Charles Scribner's Sons, New York
Dramatization, Simon Orr. Scott Foresman and Company, Chicago (Dramatized selections from twenty-two high school classics)
Eight Comedies for Little Theatres, Percival Wilde. Little,Brown and Company, Boston
Fifty Centemporary One-Act Plays, edited by Shay and Loving. D. Appleton and Company, New York
Forty-Minute Plays from Shakespeare, edited by Fred Barker. The Macmillan Company, San Francisco (Twelve playlets taken from eleven plays)
Little Theatre Classics, edited by S. A. Eliot. Little Brown and Company, Boston
More Portmanteau Plays, Stuart Walker. Stewart Kidd Company, Cincinnati, Ohio
One-Act Plays by Modern Authors, edited by Helen L. Cohen. Harcourt, Brace and Company, New York
Plays for Classroom Interpretation, edited by Edwin Van B. Knickerbocker. Henry Holt and Company, New York
Patriotic Plays and Pageants for Young People, Constance D. Mackay. Henry Holt and Company, New York
Portmanteau Plays, Stuart Walker. Stewart Kidd Company, Cincinnati, Ohio
Plays for Women, Frank Shay. Little, Brown and Company, Boston
Representative One-Act Plays by British and Irish Authors, edited by Barrett Clark. Little, Brown and Company, Boston
Short Plays for Junior and Senior High School, selected by James P. Webber and Hanson H. Webster. Houghton Mifflin Company, Boston

E. Individual poems

	Year
Ballad of St. Barbara, Chesterton	3–4
Bab Ballads, Gilbert	2–3
Ballads, Stevenson	1–2
Barrack Room Ballads, Kipling	2–3–4
Canterbury Tales, Chaucer (Use simplified text)	3–4
Childe Harold, Byron	3–4
Candles that Burn, Kilmer	3–4
Chinese Nightingale, Lindsay	3–4
Collected Poems, Rupert Brooke	3–4
Drum Taps, Walt Whitman	3–4
Daily Bread, Gibson	2–3–4
Faerie Queene, Spenser (two or three books)	3–4
Fairies and Fusiliers, Graves	2–3–4
Golden Legend, Longfellow	1–2–3
Goblin Market, Rosetti	3–4
Harp in the Winds, Henderson	3–4
Janitor's Boy and Other Poems, Crane	2–3–4
Lays of Ancient Rome, Macaulay	1–2
Lay of the Last Minstrel, Scott	1–2
Life and Death of Jason, Morris	3–4
Listeners, de la Mare	2–3–4
L'Allegro and Il Penseroso, Milton	4
Mazeppa, Byron	1–2–3
Mountain Interval, Frost	3–4
Poems of Ralph Hodgson	3–4
Poems of Alan Seeger	3–4
Poems by a Little Girl, Hilda Conkling	1–2–3–4
Prometheus Unbound, Shelley	4
Reynard the Fox, Masefield	2–3–4
Right Royal, Masefield	2–3–4
Song of Indian Wars, Neihardt	3–4
Songs from Vagabondia, Carman and Hovey	3–4
Selected Poems, Browning	3–4
Selected Poems, Amy Lowell	3–4
Selected Poems, William Butler Yeats	3–4
Selected Poems, Kilmer	2–3–4
Smoke and Steel, Sandburg	3–4
Songs of Exile, Bates	3–4
Saddle Songs, Knibbs	3–4
Sailor Town, Smith	1–2–3
Tales of a Mermaid Tavern, Noyes	3–4
Traveller, Goldsmith	3–4
Watchers of the Skies, Noyes	3–4

F. Collections of poetry

American Poetry, Boynton. Charles Scribner's Sons, New York
Century Readings in Nineteenth Century Poets, Pierce. The Century Company, New York
English Poetry, Manly. Ginn and Company, Chicago
High School Poems. Harcourt, Brace and Company, New York
Home Book of Verse for Young Folks, Stevenson. Henry Holt and Company, New York
Little Book of Modern Verse, Rittenhouse. Houghton Mifflin Company, Boston
Magic Casements, Carhart and McGhee. The Macmillan Company, San Francisco
Modern Verse, Forbes. Henry Holt and Company, New York
Modern Poetry (American and British), Untermeyer. Harcourt, Brace and Company, New York
New Poetry, Monroe and Henderson. The Macmillan Company, San Francisco
Open Gates, Spaulding. (junior high) Houghton Mifflin Company, Boston
Recent Poetry, French. D. C. Heath and Company, Chicago
Story Telling Poems, Olcott. Houghton Mifflin Company, Boston
Treasury of Humorous Poetry, Knowles. Doubleday, Doran and Company, Garden City, New York
Types of Poetry, Hall. Ginn and Company, Chicago
This Singing World, Untermeyer. Harcourt, Brace and Company, New York
Yesterday and Today: A Comparative Anthology of Poetry, Untermeyer. Harcourt, Brace and Company, New York

G. Essays

		Year
Addison and Steele	Selections from The Tatler and The Spectator	3–4
	Sir Roger de Coverley Papers	3–4
Bennett	Human Machine	2–3–4
	How to Live on Twenty-four Hours a Day	2–3–4
	Things that have Interested Me	2–3–4
	Savour of Life	2–3–4
Benchley	Early Worm	3–4
Brooks	Hints to Pilgrims	2–3–4
	There's Pippins and Cheese to Come	2–3–4
Belloc	On Nothing and Kindred Subjects	3–4
Bates	Talks on the Study of Literature	3–4
	Talks on Writing English	3–4
Carlyle	Heroes and Hero Worship	4
	Other Selections	
Colby	Margin of Hesitation	3–4
Crothers	Among Friends	3–4
	By the Christmas Fire	3–4
Cabot	What Men Live By	3–4
Chesterton	Tremendous Trifles	3–4
	Defense of Nonsense	3–4
	Uses of Adversity	3–4
	What's Wrong with the World	3–4
du Bois	Soul of Black Folk	4
de Quincy	Flight of a Tartar Tribe	3–4
Eastman	Soul of the Indian	3–4
Erskine	Moral Obligation To Be Intelligent	3–4
Galsworthy	Castles in Spain	3–4
Holmes	Autocrat of the Breakfast Table	3–4
	Professor at the Breakfast Table	3–4
Irving	Sketch-Book	2–3
Keller	World I Live In	3–4
Lamb	Selected Essays	3–4
Morley	Modern Essays	3–4
Milne	Not That It Matters	3–4
Ruskin	Sesame and Lilies	3–4
Smith	What Literature Can Do For Me	3–4

H. Biography

Abigail Adams and Her Times, Howe-Richards	2–3
Andrew Jackson, the Fighting President, Nicolay	1–2
Autobiography of Buffalo Bill, Cody	1–2
Autobiography, Roosevelt	2–3
Abraham Lincoln, Charnwood	3–4
Boy's Life of Colonel Lawrence, Thomas	1–2
Bolivar, the Liberator, Vaucaire	3–4
Count von Luckner, Thomas	3–4
Commodore Paul Jones, Brady	1–2
Daniel Boone, Wilderness Scout, White	1–2
Daughter of the Seine: The Life of Madame Roland, Eaton	1–2
Disraeli, Maurois	3–4
Dolly Madison, The Nation's Hostess, Dean	3–4
Famous Cavalry Leaders, Johnston	1–2

	Year
Florence Nightingale, Reid	3–4
Forty Years of It, Whitlock	2–3
From Immigrant to Inventor, Pupin	3–4
Heroines of Service, Parkman	1–2
Hidden Heroes of the Rockies, Russell and Driggs	1–2
John Paul Jones, Russell	3–4
Little Journeys to the Homes of American Statesmen, Hubbard	1–2
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PART SIX—PUBLIC SPEAKING

I. Introductory Statement

Courses in speech are not very well standardized in Montana high schools. There are a number of reasons for this fact: The present high school speech courses are a recent development; the demand for such courses in small high schools has been limited; and specially prepared teachers have not always been available. The emphasis which is given to different phases of the speech arts, exclusive of dramatics, varies greatly, and is dependent mainly on local community interests or on the training and vision of the teacher. Sometimes interpretative reading occupies practically all of the class time, at other times debate receives the sole emphasis, and perhaps the latest tendency is to give a large share of attention to the preparation and delivery of the different forms of public address. A separate course might well be given in each of these fields of speech but the small enrollment in such classes in most Montana high schools would hardly justify such an offering.

A course in Public Speaking, covering one year and for which one unit of credit should be given, has been outlined here. This course is merely suggestive, and it is expected that schools will make the adaptations and additions necessary to fit their needs.

Who should be allowed to enroll in the Public Speaking course? Opinions will differ somewhat, and the size and class organization of the school must be considered. The suggestion is made here that it be open to sophomores, juniors and seniors. If the course is limited to seniors, it will be found that those students who have special ability to speak or read in public are not started in this work early enough in their high school career. This plan does not give them the best opportunity for development. One thing is certain. The public speaking class is not the place for the student who has difficulty in carrying his regular English courses and merely wants another credit. The course should be limited strictly to those who have at least average ability and a real desire to do the work.

Speech courses should place the emphasis on actual performance and not on textbook and theory work. With proper stimulation and well organized activities the students will respond favorably to this sort of program. A certain number of public appearances should be required of each member of the class, and advantage should be taken of every opportunity to take part in public programs. While the student must "learn to do by doing," careful preparation must not be neglected. Satisfactory progress in the speech arts never comes through "bluffing," but only through hard work and enthusiasm.

II. Aims

This course aims to help the student:

A. To select, arrange, and express his ideas, clearly and impressively
B. To read aloud with understanding and appreciation
C. To develop confidence and poise while talking before a group of people

III. Procedure

A. Assignments covering a week or more should be given in order that the students may have a good opportunity for preparation.

B. Criticism should be given honestly, intelligently, and sympathetically. Personal conferences are helpful. The teacher must guard against discouraging the student.

C. Regular drills to improve voice quality and enunciation and to correct mistakes in pronunciation should be a part of every good course in public speaking.

IV. Content

A. Fundamentals of interpretative reading

1. **Getting the meaning**
    - a. Intellectual
    - b. Emotional
2. **Mechanics of reading**
    - a. Stress
    - b. Rate
    - c. Pausing
    - d. Phrasing
    - e. Enunciation
    - f. Tone quality
3. **Character portrayal**
4. **Interpretation of emotion**

B. Types of readings

1. **Poetry**
2. **Dialect**
3. **Humorous passages**
4. **Pathos and tragedy**
5. **Passages which aim to convince or arouse the feelings**

C. Planning the debate

1. **Selection of the question**
2. **Analysis of the proposition**
3. **Making the brief**
4. **Reasoning**
    - a. Methods
    - b. Fallacies
5. **Evidence**
6. **Preparation of speech**

D. Taking part in debate

1. **Courtesies of debate**
2. **Cooperation**
3. **Strategy**
4. **Effective delivery**
5. **Refutation**
6. **Conclusion**

E. Parliamentary practice

1. **Organization of public meetings**
    - a. Temporary officers
    - b. Permanent officers
        - (1) Nomination
        - (2) Election
        - (3) Duties
    - c. Constitution
    - d. By-laws
2. **Proceedings of public meetings**
    - a. Motions
        - (1) Main motions
        - (2) Subsidiary motions
        - (3) Incidental motions
        - (4) Privileged motions
    - b. Discussion

F. Conversation and public speaking

1. **General purposes**
2. **Importance**
3. **Social conversation**
4. **Business situations demanding effective speech**
    - a. Interviews
    - b. Sales talks
5. **Preparing a talk or speech**
    - a. Choosing a subject
    - b. Gathering material
    - c. Organization of material
    - d. Preliminary practice
6. **Common types of public address**
    - a. Impromptu speech
    - b. After dinner speech
    - c. Speech of introduction
    - d. Speech of presentation and acceptance
    - e. Informal address
    - f. Formal address

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PART SEVEN—DRAMATICS

I. Introduction

This brief outline for a course in high school dramatics must be suggestive rather than definite. The size and equipment of the school enter largely into the matter of what can be accomplished. Some schools, even in the larger cities of the state, choose to make dramatics entirely extra-curricular. One-act plays are produced by a dramatic club, while one or two "class plays" are given each year, the primary purpose being to finance some other activity.

The advantages of a course in dramatics are: that the work can be organized; that it can be kept educational, and not merely amusing, or financially remunerative; that it can be conducted under the leadership of a teacher who has specialized in dramatics, and need not be left to the haphazard leadership of various class advisors.

II. Aims

A. To teach an appreciation of the finest elements in dramatic art and the greatest works of dramatic literature

B. To give the student some experience in reading and acting and some practical knowledge of play production

C. To develop high ideals and attractive personalities through character study and portrayal

III. Content

A. Exercises

1. **Body**
   a. Posture
   b. Poise
   c. Relaxation
   d. Control
2. **Voice**
   a. Resonance
   b. Projection
   c. Relaxation
   d. Placing of tone
3. **Diction**
   a. Enunciation
   b. Pronunciation
      (1) Use of dictionary
      (2) Observation of pronunciation of lecturers, radio speakers, etc.
      (3) Drill on commonly mispronounced words

B. Pantomime

1. Keeping of scrap-book (see outline, under "Notebook")
2. Observation and imitation
3. Exercises in portraying

a. Broad emotions representing
    (1) Simple scenes
    (2) Transitions
    (3) Stories, nursery rhymes, scenes from literature or history. (Some of this may be interpreted with music.)

C. Acting and production

1. Study of technique of acting
2. Direction of one-act play by each pupil. Parts need not be memorized for these class exercises, but each director should be responsible for the careful casting and rehearsal of his play, and each pupil should take part in at least one such play.
3. Public performance; as finished as possible; of from three to six one-act plays. These may be presented individually as part of assembly programs, or may be given in groups of three—a serious play, a fantasy, and a comedy being a good combination—as a full evening's program. Separate scenes from longer plays instead of one-act plays are sometimes interesting. Selections which are particularly good are the first act of "Sun Up", the first act of "What Every Woman Knows", the proposal scene from "Saturday's Children", the artisan scenes from "Midsummer Night's Dream", and an arrangement of the Phoebe and Silvius story from "As You Like It". An amusing performance is the casket scene from "The Merchant of Venice", given in modern dress.
4. Performance in public of one or two long plays, or cooperation with the music department in the production of an operetta

D. Outside reading and reports

1. At least three long plays of different play types
2. Cuttings of at least three plays of the year past, taken from Burns Mantle's "Best Plays" or from "Theatre Magazine"
3. Magazine articles about actors, plays, or play production

E. Appreciation

1. A brief review of the history and development of the drama. It is safe to assume that this subject is studied in one of the courses in literature
2. A review of the types of plays and their construction. This also has a place in the literature course.
3. Class discussion of standards of criticism of plays, their acting, and their production
4. Discussion and criticism of plays produced in school or by professional companies, or of motion pictures

F. Notebook (looseleaf) containing

1. Outlines and records of voice and bodily exercises
2. Illustrations for pantomime
    a. Attitudes of entire body—at least five pictures, cut and pasted
    b. Expressive attitudes of hands and feet—five pictures of each
    c. Facial expressions: fear; grief; excitement; anger; joy; amusement

3. Director's book for one-act play directed by pupil
    a. Stage plot
    b. Property list
    c. Costumes
    d. Light plot
    e. Music
    f. Make-up
4. Directions and illustrations for make-up, including "straight" and "character" make-ups, for men and women, and for youth, middle age, and old age

G. Bulletin board

1. Pictures illustrative of matters treated in semester's work
2. Criticisms and comments on things theatrical, clipped from magazines and papers

IV. Desirable Equipment

Auditorium with stage; stage equipment consisting of cloth cyclorama set in front of plaster wall, a set of "flats" or screens for changes of scene, and lighting equipment.

Classroom with small stage, curtained; set of screens; at least two small flood lights with gelatine slides; piano; chairs which can be easily moved; blackboard; bulletin board; miniature stage with clothespin dolls.

Library with collections of one-act and longer plays, periodicals, books on production and stagecraft, and catalogues of publishers.

(Cooperation of the manual training department in making scenery, etc., is desirable, but seldom practicable in a small school.)

V. Bibliography

A. General

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Plays for High Schools and Colleges. National Council of Teachers of English, 211 West 68th Street, Chicago
Smith, Book of Play Production. D. Appleton and Company, New York
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Stevenson, Dramatized Scenes from American History. Houghton Mifflin Company, Boston
Tucker, Twelve One-Act Plays for Study nad Production. Ginn and Company, Chicago
Webber and Webster, Short Plays for Junior and Senior High Schools. Houghton Mifflin Company, Boston
Woodbridge, The Drama: Its Law and Technique. Allyn and Bacon, San Francisco

B. Texts

Fish, Drama and Dramatics. The Macmillan Company, San Francisco
Tower, Educational Dramatics. Row, Peterson and Company, Chicago

(Reprinted from the Course of Study in English for Montana High Schools, 1925.)

APPENDIX A

The Word-Sentence-Paragraph Questionnaire

In January, 1924, the following letter was mailed to a selected group of English teachers in Montana high schools:

> "The English course of study is to be revised and printed before another school year opens. In order that we may have something more scientifically accurate than opinion to guide us, we have decided to conduct an investigation concerning the kinds of errors committed by high school pupils in ordinary written themes. We are asking you to cooperate with the state department in this study. Only forty teachers in the state are being asked to assist; needless to say, the list of teachers has been carefully selected.
>
> "We are suggesting to each of you that at least 100 of the ordinary, first-draft compositions of your classes be regarded with especial reference to the enclosed category of error. We believe that it will be well for the pupils if you check them especially closely on the mechanics of English in this particular group of compositions. The only extra labor involved, then, is that the number of errors committed be listed in the proper spaces on the enclosed sheets.
>
> "You will notice that this investigation covers rather mechanical mistakes and that it has been still further narrowed by elimination of all reference to punctuation and capitalization. These and other important aspects of English composition have been omitted from this study for reasons of expediency.
>
> "It is desired that this investigation be complete on the subjects covered. In order that no element of importance may be omitted, space has been reserved for the entry of cases not included in the category of error. You are invited to enter such additional cases of error together with examples of the mistakes committed."

Forty-four teachers representing twenty-nine schools responded by returning the questionnaire.*

In the following pages the form of the questionnaire is combined with the results secured. In consequence the outline may be illogical in its subheads at times when anticipated additions, referred to in the fourth paragraph of the letter above, did not materialize; material submitted in response to this invitation is indicated as "Added" in the outline.

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* Following are the names of schools and teachers cooperating in this study:

Alberton High School	C. C. Conley
Anaconda High School	Sallie Stewart
Cascade High School	Elsie Hollowman
Chester High School	H. R. Filson
Conrad High School	Tate W. Peek
Culbertson High School	Mrs. Kate F. Whitcomb
Custer County High School	M. W. Schmid
Custer County High School	Lida B. Campbell
Custer County High School	Helen P. Lette
Custer County High School	Mary B. Nelson
Cut Bank High School	Anna L. Conmey
Drummond High School	E. L. Anglemyer
Grass Range High School	Catherine Dady
Harlowton High School	Mrs. Jessie Poindexter Moore

The material for the study was not controlled except as indicated in the letter given above. The purpose of the study was to discover frequency and causes of the various kinds of errors committed by pupils in their original written work. While it might have been desirable to have ascertained also the number of times each principle was correctly observed, such information is not essential; the mistakes indicate where the defects are. Inevitably some guesswork regarding the importance of topics entered into the preparation of the questionnaire; there is no guesswork about the results.

The following summary will indicate the extent of the study:

	Ninth Grade	Tenth Grade	Eleventh Grade	Twelfth Grade	Total
Number of themes studied	1,033	857	617	501	3,008
Number of different pupils writing the themes	497	392	372	285	1,546
Number of words in themes	213,395	216,800	182,835	173,300	786,330
Number of schools cooperating in the study					*24
Number of teachers cooperating in the study					*39

Harrison High School	A. J. Smith
Hysham High School	Mrs. A. W. Gardner
Lonepine High School	John C. McCoy
Missoula County High School	Mabel I. Rich
Missoula County High School	Margaret Ronan
Missoula County High School	Lyle Noble
Missoula County High School	Hortense Moore
Missoula County High School	Nina Mitchell
Missoula County High School	Hazel Swearingen
Missoula County High School	Ruth Davis
Missoula County High School	Jeanette Jordan
Missoula County High School	Grace Ryon
Park County High School	Nelle Weston
Park County High School	Winnie Gjere
Park County High School	Mamie Jones
Park County High School	Esther Vallette
Plentywood High School	Mrs. E. W. Opgrande
Plentywood High School	Anna E. Rahn
Plevna High School	Herbert Eley
Power High School	Armand Kerlaouezo
Ronan High School	Mrs. Elva G. Hall
Roundup High School	Mrs. Carrie H. Hulstone
St. Regis High School	F. M. Russell
Sanders High School	Mrs. Elizabeth Flatt
Savage High School	F. N. Hammon
Shelby High School	Mrs. Lola Pine Hall
Shepherd High School	P. S. Heerwald
Sheridan High School	Mrs. Edith M. Duncan
Whitehall High School	Anna Lindaas
Winifred High School	Mrs. Mabel C. Haight

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* Mistakes on certain items in some of the questionnaires were indicated as "Frequent," "Common," etc. Whenever any item was indicated in any way except numerically, the entire questionnaire was eliminated from the results.

Mistakes Made in Pronouns, Participles, Prepositional Phrases, Adverbs, Adjectives, Conjunctions, Agreement of Subject and Verb, and General Use of English.

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
I. **Mistakes in Case Forms of Pronouns:**	317	227	135	103	782	150	107	74	59	390
1. Subject in wrong case	73	50	29	19	171	35	24	16	11	86
a. Personal pronoun as part of compound subject. Incorrect: His father and him went hunting	27	13	5	7	52	13	6	3	4	26
b. Personal pronoun following as or **than.** Incorrect: He is taller than her	19	5	5	4	33	9	2	3	2	16
c. Relative pronoun followed by a parenthetical (thrown-in) clause. Incorrect: He is a worker whom I believe is worthy of advancement	15	22	11	5	53	7	11	6	3	27
d. **Who, whoever, whosoever,** etc., attracted into wrong case by preceding verb or preposition. Incorrect: Stop whomever tries to escape	10	8	8	3	29	5	4	4	2	15
e. Added. (Objective case of personal pronoun used as subject)	2	2	....	....	4	1	1	....	....	2
2. Predicate nominative in wrong case.	29	25	10	7	71	14	12	5	4	35
a. Personal pronoun. Incorrect: It is me	15	10	4	3	32	7	5	2	2	16
b. Interrogative pronoun. Incorrect: Whom did you say he is?	14	15	6	4	39	7	7	3	2	19
3. Direct object or object of preposition in wrong case.	104	88	56	46	294	49	41	31	26	147
a. Personal pronoun as part of compound object. Incorrect: Henry met John and I. Incorrect: Father divided the apples between brother and she	26	24	11	10	71	12	11	6	6	35
b. Personal pronoun following **as** or **than.** Incorrect. The general reprimanded the colonel more severely than I.	10	9	9	4	32	5	4	5	2	16
c. Interrogative pronoun. Incorrect: Who did you tell about this? Incorrect: Who should he vote for?	29	25	14	15	83	14	12	8	9	43
d. Relative pronoun followed by a parenthetical (thrown-in) clause. Incorrect: He is a man who I am told nobody trusts. Incorrect: He is a candidate who it seems to me we should vote for	17	22	12	11	62	8	10	7	6	31

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
e. Relative pronoun in ordinary construction. Incorrect: He is a man who nobody trusts. Incorrect: He is a candidate who we should vote for.	22	8	10	6	46	10	4	5	3	22
4. Indirect object in wrong case.	22	17	13	9	61	10	8	7	5	30
a. Personal pronoun as part of compound indirect object. Incorrect: The teacher assigned James and I a lesson.	11	8	8	4	31	5	4	4	2	15
b. Personal pronoun following **as** or **than.** Incorrect: The teacher assigned James a longer lesson than I.	11	9	5	5	30	5	4	3	3	15
5. With infinitive constructions.	31	24	15	11	81	15	11	8	6	40
a. Relative pronoun as subject of the infinitive in wrong case. Incorrect: He is a worker who I believe to be worthy of advancement.	23	15	8	6	52	11	7	4	3	25
b. Predicate pronoun after **to be** in wrong case. Incorrect: Who did you believe her to be?	8	9	7	5	29	4	4	4	3	15
6. Objective instead of possessive case with gerunds. Incorrect: Do you mind me shouting at you?	37	15	7	8	67	17	7	4	5	33
7. Pronoun in different case from word with which it is in apposition. Incorrect: Us girls went picnicking.	21	8	5	3	37	10	4	3	2	19
II. Faulty Relation of Pronoun or Pronominal Adjective and Antecedent:	363	252	200	154	969	169	117	108	90	484
1. No antecedent.	79	57	58	36	230	37	26	32	21	116
a. Antecedent suggested in prepositional phrase. Incorrect: In the afternoon paper it says	33	30	27	22	112	15	14	15	13	57
b. Antecedent suggested in adjective. Incorrect: The late President Harding was tolerant; this was one of his greatest qualities.	15	16	20	11	62	7	7	11	6	31
c. Added. (Antecedent suggested in the verb. Antecedent omitted.)	31	11	11	3	56	15	5	6	2	28

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
2. Ambiguous antecedent.	110	74	52	46	282	52	34	28	27	141
a. Personal pronoun. Incorrect: Henry's uncle was dead before he could remember.	53	36	30	17	136	25	17	16	10	68
b. Pronominal adjective. Incorrect: Henry gave James his watch.	19	7	1	8	35	9	3	1	5	18
c. Relative pronoun. Incorrect: This is the wing of the building which was constructed last year.	21	16	6	10	53	10	7	3	6	26
d. Pronoun referring to a noun in the possessive case. Incorrect: Hale's "The Man Without a Country" was written by him to impress the importance of duty to one's country.	9	8	5	4	26	4	4	3	2	13
e. Added. (Indefinite antecedents.)	8	7	10	7	32	4	3	5	4	16
3. Relative too far removed from antecedent. Incorrect: These are the only two women known to have been aboard the car who have not been found.	31	25	20	10	86	14	12	11	6	43
4. Lack of agreement in number.	108	76	52	56	292	50	36	28	33	147
a. In referring to a compound subject or object joined by **or, either—or, neither—nor,** etc. Incorrect: Either Mr. Gray or Mr. Black forgot their gloves.	45	20	15	15	95	21	9	8	9	47
b. In referring to **each, either, neither, one, anybody, no one,** etc. Incorrect: Each one must bring their own chair.	46	29	15	13	103	22	14	8	8	52
c. In referring to the relative in such expressions as **one of those who, one of the things which,** etc. Incorrect: He is one of those men who pay too much attention to his own comfort.	16	17	11	19	63	7	8	6	11	32
d. Added. (Plural pronoun referring to a singular antecedent. Singular pronoun referring to a plural antecedent.)	1	10	11	9	31	....	5	6	5	16
5. Lack of agreement in gender. Incorrect: These are the people which need help.	35	20	18	6	79	16	9	10	3	38

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
III. Other Mistakes in the Use of Pronoun:	65	43	33	22	163	31	20	18	13	82
1. The redundant pronoun. Incorrect: James he———.	19	5	6	8	38	9	2	3	5	19
2. Use of **myself, yourself, himself,** etc., when not necessary. Incorrect: James and myself did this.	11	10	7	2	30	5	5	4	1	15
3. Using **that** without grammatical construction ("floating that"). Incorrect: Here are two papers that the writers haven't signed their names.	25	7	9	5	46	12	3	5	3	23
4. Added. (The indefinite **you.**)	10	21	11	7	49	5	10	6	4	25
IV. Improper Placing and Indefinite Reference to Participles and Prepositional Phrases:	118	129	76	49	372	56	59	42	27	184
1. Participles.	86	78	40	31	235	41	36	23	17	117
a. Placed at beginning of sentence or clause, but not modifying the subject. Incorrect: While running fifty feet a second the hunter shot the rabbit.	23	15	12	6	56	11	7	7	3	28
b. Too far removed from noun or pronoun modified. Incorrect: An unidentified man was taken to the hospital suffering with fits.	27	18	9	4	58	13	8	5	2	28
c. Referring to noun or pronoun not expressed. Incorrect: Having eaten a huge steak my appetite was satisfied.	25	36	12	11	84	12	17	7	6	42
d. Referring to noun in possessive case. Incorrect: Vance's control was nearly perfect, issuing only one base on balls.	11	9	7	10	37	5	4	4	6	19
2. Prepositional phrases:	32	51	36	18	137	15	23	19	10	67
a. Gerund phrase placed at beginning of sentence or clause, but not modifying the subject. Incorrect: Upon returning to the garden the flowers had been picked.	15	16	16	6	53	7	7	9	3	26

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
b. **With** phrases.										
Incorrect: The bully struck a small boy sliding down hill with a stick.	7	11	8	8	34	3	5	4	5	17
c. All other phrases.	4	5	6	4	19	2	2	3	2	9
d. Added. (Unnecessary repetition of preposition. Failure to repeat preposition when necessary.)	6	19	6	....	31	3	9	3	....	15
V. Mistakes in the Use of Adverbs and Adjectives:	181	141	69	57	448	90	63	40	37	230
1. The double negative. Incorrect: He hasn't only two dollars.	19	18	11	9	57	9	4	6	5	24
2. Improper placing of adverbs.	27	35	19	16	97	12	16	11	10	49
a. **Only.**										
Incorrect: We only had two dollars.	20	21	12	14	67	9	10	7	8	34
b. All other adverbs (list as found).										
Together, nearly, almost, too, merely, never, not, just	5	9	3	1	18	2	4	2	1	9
c. Added. (The split infinitive.)	2	5	4	1	12	1	2	2	1	6
3. Improper placing of adjectives. Incorrect: The magician asked if he might borrow a stiff gentleman's hat.	13	7	6	3	29	6	3	3	2	14
4. Confusion of adjectives and adverbs	93	52	19	17	181	43	24	10	10	87
5. Double comparative or double superlative. Incorrect: More colder, most coldest, etc.	4	5	....	2	11	2	2	....	1	5
6. Improper omission of necessary modifier	13	18	10	4	45	12	11	8	2	33
a. **Other** or **else** with comparatives. Incorrect: The diamond is harder than any precious stone.	11	13	5	3	32	5	6	3	2	16
b. **All** with superlatives. Incorrect: The diamond is the hardest of any precious stones.	2	5	5	1	13	1	2	3	1	7
7. Use of superlative degree in comparing two items. Incorrect: She is the fairest of the twins.	12	6	4	6	28	6	3	2	3	14

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
VI. Mistakes in the Use of Conjunctions:	62	35	30	18	145	28	15	17	10	70
1. **Both—and, not only—but also, either—or, neither—nor** followed by different grammatical constructions. Incorrect: He both wrote a book and magazine articles.	11	7	9	7	34	5	3	5	4	17
2. Misuse of other coordinating conjunctions	51	28	21	11	111	23	12	12	6	53
a. Dependent clause connected to main clause by coordinating conjunction. Incorrect: American history records the names of many men of unusual ability and whom we will do well to imitate.	26	14	11	6	57	12	6	6	3	27
b. Participial construction connected to main clause by coordinating conjunction. Incorrect: The mayor cleaned up the city but thus losing many friends.	16	7	7	1	31	7	3	4	1	15
c. Participial construction and infinitive connected by coordinating conjunction. Incorrect: The car began to miss and back-firing frequently.	9	7	3	4	23	4	3	2	2	11
VII. Lack of Agreement of Subject and Verb Resulting from:	239	214	132	103	688	110	99	75	60	344
1. Number of words intervening between subject and verb. Incorrect: One of the carpenters have left.	34	27	12	3	76	16	12	7	2	37
2. Subject following the verb	29	36	27	17	109	13	16	15	10	54
a. Sentence beginning with **there.** Incorrect: There is bears in the mountains.	18	18	7	7	50	8	8	4	4	24
b. Sentence beginning with prepositional phrase. Incorrect: On the first deck is some huge guns.	11	18	20	10	59	5	8	11	6	30
3. Compound subject joined by **and, both—and,** etc. Incorrect: Wit in speech and alertness of mind is characteristic of the Frenchman.	6	9	6	4	25	3	4	3	2	12

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
4. Compound subject joined by **or, or else, either—or,** etc. Incorrect: Either James or Joe have marbles.	10	7	11	2	30	5	3	6	1	15
5. Connecting a singular subject with succeeding words by means of **with, together with, including, as well as,** etc. Incorrect: The manuscript together with a large number of letters were returned to the writer.	7	4	1	4	16	3	2	1	2	8
6. Verb agreeing with predicate noun instead of with subject	53	27	8	18	106	25	13	5	11	54
a. Singular subject and plural predicate noun. Incorrect: The greatest satisfaction in life are faithful friends.	15	10	3	5	33	7	5	2	3	17
b. Plural subject and singular predicate noun. Incorrect: Faithful friends is the greatest satisfaction in life.	38	17	5	13	73	18	8	3	8	37
7. Verb in relative clause failing to agree with antecedent of the relative pronoun. Incorrect: You who was in England at the time, can give us the information.	7	11	8	5	31	3	5	4	3	15
8. Following **each, either, neither, one,** etc., with plural verbs	5	13	4	4	26	2	6	3	3	14
a. When used as subjects. Incorrect: Each of these cost two cents.	4	10	3	3	20	2	5	2	2	11
b. When used as adjectives modifying the subject. Incorrect: Either piece of candy cost two cents.	1	3	1	1	6	....	1	1	1	3
9. Special cases of confusion	54	44	34	24	156	25	21	19	14	79
a. **You was**	11	8	3	12	34	5	4	2	7	18
b. **He don't, she don't, it don't**	21	15	15	8	59	10	7	8	5	30
c. **If I was, if he was,** etc. (in contrary to fact condition)	22	21	16	4	63	10	10	9	2	31
10. Failure to repeat the verb when the form of the verb changes	34	36	21	22	113	15	17	12	12	56
a. With change of person. Incorrect: Either John or you goes.	7	8	5	4	24	3	4	3	2	12

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
b. With change in number. Incorrect: The man was pleased and the girls delighted.	7	12	7	4	30	3	6	4	2	15
c. With change of tense. Incorrect: Our hope is that you will like Chicago as well as we have.	20	16	9	14	59	9	7	5	8	29
VIII. Mistakes in Principal Parts:	181	88	38	44	351	84	39	22	28	173
1. **Begin**	6	3	1	8	18	3	1	1	5	10
2. **Come**	25	12	7	3	47	12	6	4	2	24
3. **Do**	20	8	5	8	41	9	4	3	5	21
4. **Drink**	11	7	4	7	29	5	3	2	4	14
5. **Eat**	3	1	....	2	6	1	....	....	1	2
6. **Forget**	4	3	1	1	9	2	1	1	1	5
7. **Get**	13	8	2	2	25	6	4	1	1	12
8. **Go**	19	9	2	3	33	9	4	1	2	16
9. **Ring**	27	5	4	1	37	13	2	2	1	18
10. **Run**	10	9	5	2	26	5	4	3	1	13
11. **See**	22	11	2	5	40	10	5	1	3	19
12. **Sing**	5	....	2	....	7	2	....	1	....	3
13. **Swim**	5	5	3	1	14	2	2	2	1	7
14. **Take**	5	3	....	1	9	2	1	....	1	4
15. Added (arise, break, burst, choose, drag, fall, fly, grow)	6	4	....	....	10	3	2	....	....	5

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
IX. Mistakes in Construction of Sentences:	1117	806	457	303	2683	523	370	248	176	1317
1. The incomplete sentence	168	110	65	60	403	78	51	35	35	199
a. Subordinate clause as a sentence. Incorrect: He pitched an excellent game. While the other eight men played error-less ball.	79	49	30	24	182	37	23	16	14	90
b. Infinitive construction as a sentence. Incorrect: This is an ideal existence. To play golf, to swim, to sleep · nine hours every night—and never a worry	9	7	9	3	28	4	3	5	2	14
c. Participial construction as a sentence. Incorrect: Dick hurried to catch the train. Having telegraphed his sister that he was coming and that he could stay only two days.	32	21	14	19	86	15	10	8	11	44
d. Improper omission of subject. Incorrect: Yesterday I attended the meetings of the Senate. Heard a number of good speeches.	32	17	8	4	61	15	8	4	2	29
e. Added. (Omission of the verb.)	16	16	4	10	46	7	7	2	6	22
2. A series of short "choppy" sentences	57	51	32	15	155	27	23	17	9	76
3. Sentences too long and involved	81	79	45	24	229	38	36	25	14	113
4. More than one thought in the sentence	295	133	105	53	586	138	61	57	31	287
Comma blunder. Incorrect: The policeman was furious, he had been insulted.	295	133	105	53	586	138	61	57	31	287
5. Subordinate ideas not grammatically subordinate. Incorrect: He delivered only two campaign speeches, but was elected governor.	53	42	16	16	127	25	19	9	9	62
6. Unemphatic word or idea at end of sentence	44	46	16	11	117	21	21	9	6	57
7. Purposeless change of construction within the sentence (change of subject, change from active to passive voice, etc.)	30	30	35	22	117	14	13	18	13	58

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
8. Lack of harmony of tenses	99	69	27	29	224	46	32	15	17	110
a. In finite verbs. Incorrect: The teacher rings the bell; then all the pupils went rushing from the room.	94	62	25	24	205	44	29	14	14	101
b. In infinitives. Incorrect: It was not necessary for you to have been present.	5	7	2	5	19	2	3	1	3	9
9. Lack of variety in sentence structure	275	231	112	62	680	129	107	61	36	333
a. Sameness in beginning each sentence	61	52	20	10	143	29	24	11	6	70
b. *Overworking certain words	214	179	92	52	537	100	83	50	30	263
(1) **and**	84	87	58	32	261	39	40	32	18	129
(2) **so**	46	27	13	9	95	22	12	7	5	46
(3) **then**	33	23	4	1	61	15	11	2	1	29
(4) **well**	10	8	6	2	26	5	4	3	1	13
(5) Added **(but, for, got, sure, that, things, when, why)**	41	34	11	8	94	19	16	6	5	46
10. Added (Not sentence sensitive. Imperfect balanced sentence.)	15	15	4	11	45	7	7	2	6	22
X. Mistakes in Paragraphing:	238	116	90	73	517	112	53	50	43	258
1. Incomplete paragraph	102	39	34	19	194	48	18	19	11	96
2. Too long a paragraph	74	40	35	33	182	35	18	19	19	91
3. Improper paragraphing of conversation	47	33	12	8	100	22	15	7	5	49
4. Added. (Weak coherence between paragraphs. Too short a paragraph.)	15	4	9	13	41	7	2	5	8	22
XI. Confusion of Words:	283	162	102	110	657	133	77	58	65	333
1. **Accept** and **except**	7	10	6	11	34	3	5	3	6	17
2. **Affect** and **effect**	10	14	5	6	35	5	6	3	3	17

* Notes such as the following were frequently with this item: insufficient supply of synonyms, repetition of words or of expressions, repetition of words or of words from the same root word.

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
3. Between and among	7	1	2	1	11	3	....	1	1	5
4. Borrow and lend	6	2	....	....	8	3	1	....	....	4
5. Can and may	9	4	4	8	25	4	2	2	5	13
6. Few and less	3	5	....	2	10	1	2	....	1	4
7. In and into	22	14	10	15	61	10	6	5	9	30
8. It's and its	24	9	1	8	42	11	4	1	5	21
9. Lie and lay	23	10	6	7	46	11	5	3	4	23
10. Loan and lend	5	2	2	3	12	2	1	1	2	6
11. Lose and loose	9	6	7	....	22	4	3	4	....	11
12. Providing and provided	....	2	....	....	2	....	1	....	....	1
13. Rise and raise	7	4	3	....	14	3	2	2	....	7
14. Shall and will	23	11	10	19	63	11	5	5	11	32
15. Should and would	17	9	3	3	32	8	4	2	2	16
16. Sit and set	30	15	16	5	66	14	7	9	3	33
17. Their and there	40	29	16	11	96	18	13	9	6	46
18. To, too, and two	40	8	9	9	66	18	4	5	5	32
19. Who's and whose	1	7	2	2	12	....	3	1	1	5
20. Added (A and an, as—as and so—as, bring and take, either and neither, farther and further, leave and let)	9	6	3	1	19	4	3	2	1	10

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
XII. Vulgarisms:	156	88	53	41	338	72	39	30	25	166
1. **And for to.** (Try and go)	17	11	8	6	42	8	5	4	3	20
2. **Awful for very**	6	2	....	1	9	3	1	....	1	5
3. **Either or neither for any**	....	1	....	1	2	....	....	....	1	1
4. **Except for unless**	12	4	3	3	22	6	2	2	2	12
5. **Good for well**	Included under V-4.									
6. **Like for as or as if**	24	14	11	11	60	11	6	6	6	29
7. **Most for almost**	11	4	3	4	22	5	2	2	2	11
8. **Real for very**	12	14	7	6	39	6	6	4	3	19
9. **So for so that**	8	3	1	....	12	4	1	1	....	6
10. **Some for somewhat**	9	10	8	1	28	4	5	4	1	14
11. **Sure for surely**	9	1	1	3	14	4	....	1	2	7
12. **Them for those**	9	4	2	....	15	4	2	1	....	7
13. **Where for that** (I see in today's paper where—)	1	6	2	1	10	....	3	1	1	5
14. **Without for unless**	3	1	2	1	7	1	....	1	1	3
15. Added. (**All the farther for as far as, anxious for eager, apt for likely, dope** [slang usage], **fix for repair, learn for teach, liable for likely, lots for many, mad for angry, nice for pleasant, only for except, pretty for fairly or very, right for very, riled for aroused, stuff** [slang usage], **suspicion for suspect, they for there.**)	35	13	5	3	56	16	6	3	2	27

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
XIII. Words or Expressions which are not English:	212	133	77	94	516	103	60	44	54	261
1. Ain't	2	....	1	....	3	1	....	1	....	2
2. Alright	17	10	7	4	38	8	5	4	2	19
3. Anywheres, everywheres, etc.	....	4	....	....	4	....	2	....	....	2
4. Can't seem	4	5	1	3	13	2	2	1	2	7
5. Could of	11	9	11	7	38	5	4	6	4	19
6. Gotten	23	2	1	7	33	13	1	1	4	19
7. Had of	8	6	6	6	26	4	3	3	3	13
8. Had ought	12	7	....	3	22	6	3	....	2	11
9. Have got (indicating possession)	10	9	3	8	30	5	4	2	5	16
10. Inside of	3	7	2	2	14	1	3	1	1	6
11. Is when 12. Is where } (in definitions)	23	17	4	6	50	13	8	2	3	26
13. A kind of a	11	1	6	1	19	5	....	3	1	9
14. Might of	4	4	3	3	14	2	2	2	2	8
15. Must of	12	6	8	6	32	6	3	4	3	16
16. Off of	18	5	2	1	26	8	2	1	1	12
17. Outside of	5	2	2	3	12	2	1	1	2	6
18. Over with	3	6	1	....	10	1	3	1	....	5

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
19. **Proven**	....	3	1	2	6	....	1	1	1	3
20. **Reason is because**	6	5	6	4	21	3	2	3	2	10
21. **Reason is because of**	1	....	....	....	1	....	....	....	....	....
22. **Reason is due to**	....	....	1	2	3	....	....	1	1	2
23. **Reason is on account of**	2	3	2	5	12	1	1	1	3	6
24. **Should of**	7	6	4	7	24	3	3	2	4	12
25. **A sort of a**	8	....	2	2	12	4	....	1	1	6
26. **These** or **those kind, these** or **those sort**	9	3	2	4	18	4	1	1	2	8
27. **This here, that there, these here, those there**	2	....	....	1	3	1	....	....	1	2
28. **Used to could**	....	2	....	....	2	....	1	....	....	1
29. Added. **(Anyways, being as there was, being that I was, being they were, boughten, complected, different than, everysince, fartherest, git, half to, killed off, somewhere reasonable, stay home, would half, would of.)**	11	11	1	7	30	5	5	1	4	15

XIV.—Words Misspelled:

Misspelled thirty-eight times

all right—See XIII.—2

Misspelled sixteen times

until

Misspelled eight times

finally

Misspelled seven times

immediately
probably

Misspelled six times

business
disappointed
judgment
receive

Misspelled five times

believe
coming
couldn't
didn't
enough
stopped
whether

Misspelled four times

biggest
certain
disappointment
interest
maybe
occasion
occurred
perform
physically
together
village

Misspelled three times

acquainted
always
ambitious
anxious
apologize
beginning
benefit
Caesar
careful
catch
change
character
college
control
decided
definite
develop
disappear
dropped
equipped
excited
friend
ghost
grammar
happened
leisure
luxuries
parents
piece
privilege
senses
separate
shining
shook
siege
stepped
studying
superstitious
sure
swimming
watch
writing

Misspelled two times

advertisement
afraid
almost
also
and
angry
animal
appearance
applies
because
been
canyon
caught
characteristic
chief
cliff
climb
coarse
color
community
complete
conceited
consequently
contractor
council
course
courteous
criticism
decision
describe
different
disappearance
discipline
disease
disgusted
doctor
does
emphasis
entertain
entertainment
erosion
evening
everything
experience
fairies
fence
field
financial
fortune
forty
found
generally
grabbed
happenings
heard
height
horror
hungry
impossible
indispensable
knowledge
led
meant
omit
opinion
pamphlets
parallel
people
perfect
portrayed
possess
practically
practice
principal
quarrels
really
remember
robbed
ruler
science
search
seems
solid
speech
stretch
Sunday
than
therefore
those
translation
truthful
various
wander
women
worst

Confusion of homonyms and near-homonyms.

(Number of cases of confusion enclosed in parenthesis.)

their and **there** (96) See XI—17.
to, too, and **two** (66) See XI—18.
its and **it's** (42) See XI—8.
affect and **effect** (35) See XI—2.
accept and **except** (34) See XI—1.
lose and **loose** (22) See XI—11.
who's and **whose** (12) See XI—19.
where and **were** (10)
than and **then** (9)
know and **no** (5)
hear and **here** (5)
of and **off** (5)
are and **our** (4)
quiet and **quite** (3)
right and **write** (2)
close and **clothes** (2)
buy and **by, cloth** and **clothe, due** and **do, for** and **four, patients** and **patience, statue** and **stature, through** and **threw, tract** and **track, weak** and **week, your** and **you're,** (one mistake each).

APPENDIX B

The Punctuation—Capitalization—Abbreviation Questionnaire

In March, 1924, the group of teachers who had cooperated in the word-sentence-paragraph study received a questionnaire on punctuation, capitalization, and abbreviation together with a letter, the two important praagraphs of which read as follows:

> "The response of English teachers to whom the English questionnaire was sent less than two months ago has been so enthusiastic that we have been encouraged to issue the accompanying category of error on punctuation, capitalization, and abbreviation.
>
> "The general plan of this study is much the same as with the previous one. We suggest that you list in the prepared spaces the number of punctuation, capitalization, and abbreviation errors committed by your pupils in 100 or more ordinary first-draft compositions. You will note that space has been reserved for the entry of cases of error not covered by the outline. We shall look for the return of the questionnaire toward the end of the present school year."

In general the explanations given regarding the word-sentence-paragraph questionnaire apply also to the one under present consideration; consequently no further introductory comment is offered.

The following summary will indicate the extent of the study:

	Ninth Grade	Tenth Grade	Eleventh Grade	Twelfth Grade	Total
Number of themes studied	559	554	265	169	1,547
Number of different pupils writing themes	225	239	203	148	815
Number of words in themes	118,555	121,025	62,410	50,750	352,740
Number of schools cooperating in the study					*14
Number of teachers cooperating in the study					*23

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*Following are the names of schools and teachers cooperating in this study:

Anaconda High School	Sallie Stewart
Chester High School	H. R. Filson
Conrad High School	Tate W. Peek
Culbertson High School	Mrs. Kate F. Whitcomb
Cut Bank High School	Anna L. Conmey
Drummond High School	E. L. Anglemyer
Lonepine High School	John C. McCoy
Missoula County High School	Mabel I. Rich
Missoula County High School	Margaret Ronan
Missoula County High School	Lyle Noble
Missoula County High School	Hortense Moore
Missoula County High School	Nina Mitchell
Missoula County High School	Hazel Swearingen
Missoula County High School	Ruth Davis
Missoula County High School	Jeanette Jordan
Missoula County High School	Grace Ryon
Plentywood High School	Anna E. Rahn
Plentywood High School	Mrs. E. W. Opgrande
Plevna High School	Herbert Eley
Power High School	Armand Kerlaouezo
Savage High School	F. N. Hammon
Shelby High School	Mrs. Lola Pine Hall
Zurich High School	J. A. McCrae

Mistakes Made in Punctuation, Capitalization, and Abbreviation

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
I. PUNCTUATION	1430	1098	346	243	3117	1207	907	551	484	3149
A. Mistakes in the Use of the Comma:	648	462	195	138	1443	547	381	304	274	1506
1. In separating words or phrases in a series	151	57	26	27	261	127	47	43	54	271
a. No commas used	77	11	13	11	112	65	9	21	22	117
b. Ambiguous on account of omission of the last comma. Incorrect: John, Henry and James must have their share	49	39	11	9	108	41	32	18	18	109
c. Comma used at the close of the series Incorrect: John, Henry, and James, must have their share	8	5	1	....	14	7	4	2	....	13
d. Commas used when all the conjunctions are expressed	17	2	1	7	27	14	2	2	14	32
2. In writing addresses and dates	35	32	18	7	92	30	26	29	14	99
3. Failure to set off appositives	41	26	21	11	99	35	21	34	22	112
4. Failure to set off words in direct address	18	13	4	3	38	15	11	6	6	38
5. Failure to set off parenthetical or independently phrased words or short expressions (however, thirdly, of course, in fact, yes, no, etc.)	71	31	33	29	164	60	26	52	57	195
a. When they introduce the sentence	40	20	19	17	96	34	17	30	33	114
b. When they break the continuity of closely related parts of the sentence	31	11	14	12	68	26	9	22	24	81
6. Failure to set off absolute phrases	28	15	4	1	48	24	12	6	2	44
7. Failure to set off short quotations	33	10	13	2	58	28	8	21	4	61
8. Omission of commas for separating short, simple clauses of a compound sentence	58	60	21	9	148	49	50	34	18	151
9. Omission of a comma at the end of a long subordinate clause preceding the principal clause	42	73	19	24	158	35	60	22	47	164

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
10. Incorrectly punctuating relative clauses	68	67	13	14	162	57	55	21	28	161
a. Use of comma with restrictive clauses. Incorrect: The financial appeal is the one, which most impresses him	18	17	5	5	45	15	14	8	10	47
b. Omission of comma with non-restrictive clauses. Incorrect: Calvin Coolidge who broke up the policemen's strike is now President of the United States	50	50	8	9	117	42	41	13	18	114
11. Omission of comma before contrasted words, phrases, or clauses introduced by **but, though, yet, nor**	53	13	10	2	78	45	11	16	4	76
12. Failure to indicate by commas the omission of important words	14	6	....	4	24	12	5	....	8	25
13. Omitting commas necessary to prevent misreading or misunderstanding. Incorrect: He continued to write his poems being better received	10	25	4	2	41	8	21	6	4	39
14. Omitting commas with transposed sentence elements	5	6	....	....	11	4	5	....	....	9
15. Added. (Commas used without any reason. Omission of comma before **as, for,** and **since,** introducing a reason. Use of comma for setting off a prepositional phrase which is not parenthetical.)	21	28	9	3	61	18	23	14	6	61
B. Mistakes in the Use of the Apostrophe:	197	153	59	37	446	166	126	96	74	462
1. Faulty usage when indicating the possessive case	154	137	41	33	365	130	113	67	66	376
a. With a singular noun the nominative of which ends in s. Correct: James' book. Correct: James's book.	73	27	16	16	132	62	22	26	32	142
b. With a plural noun the nominative of which ends in s. Correct: The boys' books	14	15	2	3	34	12	12	3	6	33

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
c. With a plural noun the nominative of which does not end in s. Correct: The men's hats	6	19	5	....	30	5	16	8	....	29
d. Improperly used with possessive pronouns	10	7	1	1	19	8	6	2	2	18
e. Improperly omitted with **one's, one another's, each other's, everybody's, anybody's, anyone's**	23	18	2	....	43	19	15	4	....	38
f. Added. (Apostrophe omitted. Apostrophe inserted where none should appear.)	28	51	15	13	107	24	42	24	26	116
2. Failure to mark omission of a letter or of a figure. Correct: The class of '24, o'clock, don't	32	16	17	3	68	27	13	27	6	73
3. Omission in indicating the plurals of letters or of figures	11	....	1	1	13	9	....	2	2	13
C. Mistakes in the Use of Quotation Marks:	146	123	17	6	292	123	102	29	12	266
1. Omission of quotation marks	95	74	4	1	174	80	61	7	2	150
a. At beginning of a direct quotation	46	33	1	....	80	39	27	2	....	68
b. At end of a direct quotation	49	41	3	1	94	41	34	5	2	82
2. Failure to indicate with proper quotation marks a break in a direct quotation. Correct: "This," President Wilson said, "is a war to end war."	10	12	2	2	26	8	10	3	4	25
3. Failure to indicate properly a quotation within a quotation	4	....	....	....	4	3	....	....	....	3
4. Failure to observe proper sequence when quotation marks and one other mark of punctuation occur at the end of the sentence	2	2	1	....	5	2	2	3	....	7
5. Failure to indicate titles of articles or of books by quotation marks or by underscoring	35	35	10	3	83	30	29	16	6	81

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
D. Mistakes in the Use of the Period:	208	151	26	13	398	176	125	42	26	369
1. Omission at end of declarative sentences	96	59	11	11	177	81	49	18	22	170
2. Omission after initials or abbreviations	65	42	14	1	122	55	35	22	2	114
3. Omission after figures or letters used for tabulation in an outline	47	50	1	1	99	40	41	2	2	85
E. Mistakes in the Use of the Semicolon:	55	44	28	18	145	46	37	45	36	164
1. Omission of semicolon between long principal clauses containing commas within one or both of such clauses	34	23	22	11	90	29	19	35	22	105
2. Failure to set off by semicolon a loosely connected clause expressing repetition, explanation, consequence, opposition, contrast	17	14	5	5	41	14	12	8	10	44
3. Omissions before namely, i. e, e. g., viz., to wit, etc., when a number of examples or particulars follow	4	7	1	2	14	3	6	2	4	15
F. Mistakes in the Use of the Colon:	34	43	2	4	83	29	35	4	8	76
1. Omission before a series of words, phrases, or clauses formally introduced	13	22	1	4	40	11	18	2	8	39
2. Omission after the salutation in a formal letter	7	6	1	....	14	6	5	2	....	13
3. Omission before a long formal quotation	8	10	....	....	18	7	8	....	....	15
4. Omission in writing the time of day (10:30 A. M.)	6	5	....	....	11	5	4	....	....	9
G. Mistakes in the Use of the Question Mark:	52	27	7	7	93	44	22	12	14	92
1. Omission at the end of a direct question	43	27	6	6	82	36	22	10	12	80
2. Introduction at the end of an indirect question	9	....	1	1	11	8	....	2	2	12

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
H. Mistakes in the Use of the Exclamation Point:	23	13	3	3	42	19	11	5	6	41
1. Omission after words, phrases, or sentences expressing strong feeling	16	11	3	2	32	13	9	5	4	31
2. Directly after O (poetic or archaic)	7	2	....	1	10	6	2	....	2	10
I. Mistakes in the Use of Parentheses and Brackets:	6	22	2	7	37	5	18	3	14	40
1. Too frequent use with parenthetical expressions as a substitute for commas or dashes	6	11	2	5	24	5	9	3	10	27
2. Use of parentheses instead of brackets in introducing explanations or corrections into quotations from others	....	5	....	1	6	....	4	....	2	6
3. Improper sequence when parentheses and one other mark of punctuation belong between the same two words or at the end of the sentence	....	6	....	1	7	....	5	....	2	7
J. Mistakes in the Use of the Dash:	10	12	....	4	26	8	10	....	8	26
1. Failure to use the dash when the thought or grammatical structure of a sentence is suddenly interrupted	6	7	....	4	17	5	6	....	8	19
2. Failure to use the dash before or after an informal enumeration. Correct: The young, the old, the rich, the poor—all are concerned	4	3	....	....	7	3	2	....	....	5
3. Added. (Use of a dash instead of a comma.)	....	2	....	....	2	....	2	....	....	2
K. Mistakes in the Use of the Hyphen:	51	48	7	6	112	44	40	11	12	107
1. Failure to use hyphen for connecting the parts of a compound word. (Jack-in-the-box, ill-humored, ill-conditioned, bas-relief, over-activity, half-finished, saddle-horse. thirty-one)	20	14	5	1	40	17	12	8	2	39

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
2. Omission of hyphen when breaking a word at the end of line	9	3	....	5	17	8	2	....	10	20
3. Placing of hyphen within syllables instead of between them	22	31	2	....	55	19	26	3	....	48
II. CAPITALIZATION	310	182	46	13	551	263	150	76	26	515
A. Mistakes in Capitalization in Larger Units:										
Included is failure to begin with a capital the first word of each of the following:	167	112	16	8	303	140	92	26	16	274
1. A sentence	47	51	9	2	109	40	42	14	4	100
2. A line of poetry	12	3	....	1	16	10	2	....	2	14
3. A direct quotation	7	17	2	....	26	6	14	3	....	23
4. Each item of a tabulated outline	11	7	1	....	19	9	6	2	....	17
5. The first and all other important words in the title of a book, composition, article, etc.	63	25	3	4	95	53	21	5	8	87
6. Each noun in the salutation of a letter	11	5	....	....	16	9	4	....	....	13
7. Added. (Use of capital when not needed.)	16	4	1	1	22	13	3	2	2	20
B. *Mistakes in Capitalization of Proper Nouns and Adjectives:	143	70	30	5	248	123	58	50	10	241
1. Failure to capitalize a noun or adjective unmistakably proper in form	15	6	....	1	22	13	5	....	2	20
2. Failure to capitalize **north, east, south, west,** and their compounds when referring to parts of the nation	13	4	4	1	22	11	3	6	2	22

*Usage is divided in the matter of some of the rules for capitalizing proper nouns and adjectives.

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
3. Failure to capitalize all nouns and pronouns referring to the Deity	....	5	1	....	6	....	4	2	....	6
4. Failure to capitalize a common noun when used as an essential part of a proper name. Correct: Uncle Henry, Billings High School, Franklin Street	15	5	1	....	21	13	4	2	....	19
5. Failure to capitalize a title referring to one person and used instead of his name. Correct: Our Governor favors an income tax	7	6	3	....	16	6	5	5	....	16
6. Failure to capitalize the names of:	36	11	10	1	58	32	10	17	2	61
a. Political parties	7	2	3	....	12	6	2	5	....	13
b. Governmental bodies	3	....	....	....	3	3	....	....	....	3
c. Superior courts	7	....	....	....	7	6	....	....	....	6
d. Famous public documents	3	....	1	....	4	3	....	2	....	5
e. Important events	6	6	6	....	18	5	5	10	....	20
f. Holidays	1	1	....	....	2	1	1	....	....	2
g. Religious bodies	6	1	....	....	7	5	1	....	....	6
h. Parts of the Scriptures	3	1	....	1	5	3	1	....	2	6
7. Capitalization of common nouns without reason. Correct: English, plane geometry, American history, a professor of mathematics, Von Bernstorff, Count von Bernstorff	57	33	11	2	103	48	27	18	4	97

	Number of Mistakes					Number of Mistakes per 100,000 Words				
	9th Grade	10th Grade	11th Grade	12th Grade	Total	9th Grade	10th Grade	11th Grade	12th Grade	Total
III. ABBREVIATIONS List improper abbreviations as found: Cali. for Calif. Col. for Colo. Dist. Col. for D. C. Ge. for Ga. Mon. for Mont. Ver. for Vt. Wy. for Wyo. Ju. for July Sep. for Sept. Doc. for Dr. Cap. for Capt. Mfg. for Manufacture Ag. for Agriculture Com. for Community Gnl. for General Scot. for Scotland Ect. for etc.										

APPENDIX C

Use of Results Secured from the Composition Questionnaires

There are a multitude of inferences to be drawn from the results of the composition questionnaires. The thoughtful teacher will make these deductions for himself and no attempt will be made here to insult his intelligence by the drawing of obvious conclusions. It is hoped that the following comment on methods of interpreting results of the studies may not be out of place:

1. The relative importance of mistakes is indicated by their relative number. Thus the results indicate that mistakes in pronouns occur five times in every eight compositions while comma mistakes occur at the rate of one in each theme. Lack of agreement between subject and verb is considerably less frequent than faulty relation between pronoun and antecedent. The greatest problem is sentence structure and the most frequent individual sentence error is the comma blunder. There should be no disposition to hairsplitting analysis in this matter, but in general, the principle most frequently violated is the principle which needs to be taught most persistently. It is idle to argue that if pupils had attempted such and such constructions they would very likely have made mistakes in them. The important mistakes to eliminate are those which the pupils commit.

2. Study of the results will disclose not only what mistakes are most common but also why they are committed. It is, for instance, of considerable importance for the English teacher to know that difficulties with case forms and with relation between pronoun and antecedent outnumber all other pronoun mistakes twelve to one. But for constructive teaching it is necessary to know, also, why the difficulties arise. If we know that practically all cases of having the subject in the objective case are the result of the four circumstances enumerated under I-1 in the first questionnaire we are in a fair way to anticipating and gradually eliminating this error. The specifics under each major division in the questionnaires are diagnostic in that they indicate, in addition to frequency, also causes of error.

3. The questionnaire results will indicate which mistakes we are successful in eliminating and which persist in spite of English courses. "Ain't", for example, has been practically eliminated from written work before the pupil enters high school; "It is him, it is me" offers no great problem in written composition; on the other hand, faulty relation between the pronoun and the antecedent occurs approximately once in every three compositions throughout the high school grades. The recurrence of an error from year to year is proof that our teaching of the corresponding correct principle is not bringing results.

4. Finally, the questionnaires point the way for teachers to make studies of the efficiency of English teaching in their own classes and in their own schools. By keeping records of mistakes made in themes or by testing pupils with tests constructed on the basis of material in the questionnaires, teachers may discover in which particulars individual classes and even individual pupils are not sufficiently well prepared. A mistake discovered is half eliminated; but

> the elimination can be made complete if the discovery is followed up with practice material and with emphasis upon the replacement of the violated principle by the correct one in all written work.

One specific suggestion is that teachers follow up study of oral composition on a basis somewhat similar to the one employed for themes in these questionnaires. The present study was limited to written work for two reasons. In the first place, the tabulation of errors is a more definite operation in written than in oral work, especially where many are co-operating in one study. In the second place, errors in writing are more fundamental since most written errors are also errors in speech; there are, however, a considerable number of oral errors which are not likely to find their way into written composition. An interesting and worth while project for the study of oral errors might well be initiated in individual schools.

APPENDIX D

Composition Subjects

In the spring of 1924 the following letter was addressed to each English teacher in the state:

> "Kindly list below composition subjects which you have found especially successful. We shall be appreciative of any description, explanation, comment, or suggestion which you may desire to add regarding these theme subjects or regarding theme work in general."

The succeeding paragraphs constitute an attempt at summarizing the replies received and the reactions secured from various other sources.

It is desirable that pupils be allowed to choose their own subjects, but usually within limits. A popular method consists in assigning a number of subjects and allowing individual pupils to choose from the list; the following of this plan reduces the chances for dishonest work and opens up lines of thought that might not occur to the pupil himself. Pupils who have special hobbies should be allowed to write on these subjects if they wish. A hard-and-fast assignment of only one topic should practically never be made.

A constantly emphasized guiding principle is that composition subjects must be related to the experiences of the pupils. The attempt to assign for oral or written work abstract subjects or subjects with which the pupil is unacquainted is likely to meet with failure, especially in the ninth and tenth grades. A local turn given to a story, description, essay, or argument frequently puts life into a subject which without such local color would be a dead exercise. The choice of local subjects must always remain personal problems for the individual teacher and her class. Pupils in this western country are interested in outdoor life (hiking, fishing, hunting, camping, etc.); every student body has school problems to be solved; ideas and ideals regarding manners, conduct under various conditions, management of school activities and organizations, and the like may well form the basis for composition work; the observation of life, things seen in city and country, the most peculiar person ever encountered, the strangest event ever experienced, the most interesting place ever visited—these and numberless similar topics are types of interesting composition material. The new teacher may find it helpful to have pupils hand in lists of subjects which they would like to discuss or on which they would like to write.

Letter writing undoubtedly is the form of literary composition in which pupils will engage most frequently later in life. Much of the theme work on subjects here indicated may be issued in the form of letters. Subjects of narrative and descriptive flavor may readily be prepared in the form of friendly letters; expositional and argumentative material is probably incorporated more naturally in business letters.

Correlation of composition work with the literature read may often be effected. Aside from book reports, character sketches and imaginative narratives based on reading readily suggest themselves. Success with subjects of a more literary flavor is dependent mainly upon the ability of the teacher to give pupils a thorough understanding and appreciation of the type of literature selected. The enthusiastic teacher of poetry will usually secure stimulating results when he assigns the writing of a poem. The teacher whose literary interests are not in the field of poetry can hardly expect encouraging consequences from such an assignment. A considerable number of high school pupils display amazing capacity at dramatizing short stories, at producing compositions modeled upon literature read, and at writing of original lyrics, ballads, and dramas when proper encouragement is given. The following composition subjects in correlation with the reading of various classics have been reported:

Literature Read	**Composition Subjects**
Addison. Sir Roger de Coverley Papers.	Sir Roger at the High School Prom.
Burns. Cotter's Saturday Night.	An American Family on Saturday Night.
Burroughs. Sharp Eyes.	Sharp Ears.
Chaucer. Prologue to the Canterbury Tales.	Character Descriptions in the Style of Chaucer.
Everyman or Browne's Everywoman.	A Moral Play: Everystudent. (Good English as the principal character.)
Hawthorne. A Rill from the Town Pump.	Soliloquy by the Post Office Window.
Holmes. The Autocrat of the Breakfast Table	The Autocrat of the Dinner Table.
Homer. Selections from the Odyssey.	The Next Voyage of Odysseus.
Longfellow. Evangeline.	Newspaper Report on the Taking of Acadia by the English.
Milton. Minor poems.	Description of the Home of the Attendant Spirit. Comparison of L'Allegro and Il Penseroso.
Scott. Ivanhoe.	A Trip to England in 1189.
Shakespeare. Hamlet.	Was Hamlet Really Mad? Soliloquy in the Vein of Hamlet's Soliloquy on Death.
Shakespeare. Julius Caesar.	Contrast Brutus and Cassius.
Stevenson. Travels with a Donkey.	Traveling with Dynamite. Which Was the Better Trainer?
Stockton. The Lady or the Tiger.	Sequel to the Lady or the Tiger.
Tennyson. The Idylls of the King.	The Modern High School Knight. How I Would End Gareth and Lynette.
Whittier. Snow-Bound.	A Local Winter Scene.

Correlation of composition exercises with the work of other departments has already been mentioned. Science may be made to furnish many valuable paragraph topics in answer to such questions as: Why Does Smoke Rise? How Is Dew Formed? Manual training, sewing, and cooking give opportunity for explanation of how various things are made. Matters of local, state, national, and international importance are constantly being discussed in history and other social studies classes. If a course in occupations is offered much composition work may be correlated with the material of that course; if no such course is offered it becomes much more the responsibility of the English department to start pupils thinking along vocational lines. The following subjects are merely suggestive of the large amount of composition material to be found in the school work of the average pupil:

Bird Friends and Enemies.
Clean-up Day.
Duties of the City Clerk (or other city or county official).
Finding a Hawk's Nest.
Immigration.
My Ambition.

My Life Work.
Prohibition—What Shall We do With It?
The Future of South America.
The Purchase of Alaska (or of the Louisana Territory) as a Profitable Investment.
Tuberculosis: Its Cause and Cure.
Types of Settlers in New England and Virginia.
Value of High School Education.
Value of a College Education.
What My Community Is Doing for My Benefit.
Why I Want to be a Doctor, (Plumber, Teacher, Lawyer, etc.).
World Court.

Pictures offer suggestions for imaginative composition exercises. Many teachers make a practice of gathering pictures, magazine covers, and advertisements for use as composition subjects.

Another source of interesting material is biography and the observance of special days. In addition to days designated for observance, there are numerous opportunities for special day programs. Almost any day is the anniversary of some important event or of the birth or death of some prominent person. Group or class projects built up about some such central theme frequently result in entertaining programs.

Allusion has been made to composition projects. Such project work should be a part of the experience of every pupil who graduates from high school. An individual project calls for the preparation of a number of compositions by the same pupil before the project is completed; a group or class project calls for cooperative work on the part of the pupils concerned in preparing the different parts of one single exercise. The following projects have been used with success in the state:

1. A Sketch Book:
   The Author's Visit to a Ten-Cent Store.
   The Author's Trip in an Aeroplane (or Dirigible).
   The Author's Trip in an Automobile.
2. A Sketch Book:
   The Author's Account of Himself.
   Our Community Ten Years Ago.
   Our Community Today.
   Our Community Ten Years Hence.
3. My Autobiography. (A ninth grade individual project which includes: 1. My Ancestors. 2. My Parents. 3. My Childhood Before Entering School. 4. I Begin My Education. 5. Grade School Experiences. 6. I Enter High School.)
4. Plans for Beautifying the School Grounds (with diagrams and costs).
5. The Early Local History of ————.
6. The Country Store. (Setting and characters.)
7. The Origin of Christmas Customs.
8. One or More Issues of a Class Magazine. (Organize the members of the class as a newspaper staff.)
9. Our Town. (A letter writing or advertising project.)
10. Stories from Mythology. (An oral composition project preliminary to the study of Homeric poems.)

11. Introduction to ————————. (Oral composition project useful in introducing the study of a classic.)
12. Parts of ———————— Not Read by the Class as a Whole. (Oral composition project for the telling of stories supplementing those read by the class from the Bible, the Odyssey, Idylls of the King, etc.)
13. Other Poems by ————————. (Oral composition project supplementing reading of the class from a certain poet. Including in each report: 1. Subject of the poem. 2. Most impressive feature of the poem. 3. Reading of a brief selection.)
14. A Mother Goose Rhyme After the Manner of ————————. (Little Jack Horner in the style of Alger; Ding Dong Bell in the vein of Zane Grey; Peter, Peter, Pumpkin Eater a la Ring Lardner, etc.)

Following is a list of titles on narrative, descriptive, expository, argumentative and miscellaneous subjects recommended by Montana teachers as successfully used in their classes:

A Bucking Broncho.
A Crowded Car.
A Dialect Story.
A Ghost Story.
A Hobo.
All that Glitters Is Not Gold.
American Optimism.
Am I in School to Get My Subjects or to "Get By"?
An All-day Trip.
Animal Pets.
An Indian Legend.
An Old Indian.
An Original Fairy Story.
A Pair of Squeaking Shoes.
A Scotch Hero.
A Tail of Powder.
Athletics for Girls.
Autobiography of a Dime.
Autobiography of an Old Chair.
Boys and Girls Clubs.
Boy Scouts.
Browsing in the Dictionary.
Campfire Girls.
Clouds.
Contented Cows.
Conversation of Two Characters Taken from a Newspaper Advertisement.
Deserted Caves.
Diary of a Newsboy.
Do the Worst Thing First.
Drilling for Oil.
Exemptions from Examination.
Fashions.
Fate of the Easter Bonnet.
Flappers.
Forests and Their Preservation.
Going Fishing.
Good Roads.
Good Sportsmanship.
Gossip.
Gumbo.
Has the North American Indian Been Mistreated?
Haunted Places.
His Chaperone.
Hobbies.
Hot Lunch.
How ———— Got Its Name.
How I Earned My First Dollar.
How I Should Start a War.
How People Behave in Church.
If I Had Three Wishes.
If I Were a Freshman Again.
If Shakespeare Lived Today.
Joys and Sorrows of My Barefoot Days.
Knockers.
Leaves Stolen from a Diary.
Local Scenery.
Main Street.
My Ailments.
My Experience in Ellis Island.
My Favorite ————————.
My First Day in School.
My Ideal Teacher.
My Pet Aversion.
My Worst Scare.
Ninety-nine Cents.

Notebooks and Their Habits.
On Being the Oldest (or Youngest).
On Getting Up in the Morning.
Our School a Community Center.
Over the Alps Lies My Italy.
Pet Economies.
Punctuality.
Report (Minutes) of a Class Meeting.
School Dances.
Spring Fever.
Student Self-Government.
School Spirit.
Schoolrooms Do Not a Prison Make.
Second Thoughts.
See Montana First.
Seen from the Classroom Window.
Soliloquy of a Football, a Hand Mirror, an Umbrella, etc.
Thanksgiving Turkey.
The ——— Fire.
The Barracks.
The Begger's Pedigree.
The Engineer's Last Trip.
The Greenhorn.
The Modern Girl.
The Peddler.
The Roundup.
The Skimmed Milk of Human Kindness.
The Teachers' Meeting as I Imagine It.
The Wrong Bundle.
True Christmas Spirit.
Twenty Miles of View.
Vagaries of My Fountain Pen.
Value of Examinations.
Value of Movies.
Visit of the Grasshoppers.
Wearing New Shoes.
What Constitutes Happiness?
What I Saw in Mars.
What I Think of High School.
What I Would Do With One Hundred Dollars.
What Next?
When Father Was a Boy.
When Gravity Asserted Itself.
Why I Like Montana.
Why I Was Late to School.
Why Study English?
Women (Men) Considered While Absent.

APPENDIX E

Literature Preferences of Pupils

The success of a classic for class study is usually determined solely upon the basis of teacher judgment. The teacher, or teachers, decides which classics are to be studied, and, after they have been studied, the same teacher or teachers determines the extent of their success and the advisability of their retention in succeeding years. The value of teacher opinion, founded on experience with classroom instruction of any given classic, is by no means to be ignored or belittled; it is, as indicated by the following tables, usually quite correct; but it does seem reasonable that the pupil—the object of the experiment—should also be studied in an effort to ascertain the comparative success of the classic. It was with this purpose in view that the study described on the following pages was undertaken.

Toward the close of the school year, 1923-1924, the following questionnaire form was mailed to English teachers in the state:

English Readings

"List below the titles of all classics read in the various high school grades this year. In the spaces to the right indicate the vote of your classes:

Ninth Grade.	Total number of pupils voting ————.					
Titles of All Classics Read This Year	Number of Pupils Ranking This Classic.					
	1st	2d	3d	4th	5th	6th

Similar tables were prepared for tenth, eleventh and twelfth grades. The following paragraph of explanation was contained in the letter accompanying the questionnaire:

> "The English reading questionnaire represents an attempt at finding out what classics appeal most strongly to pupils; the general impression of the pupils in each grade is what we want. In securing the data we would suggest that the titles of the various classics read this year in the ninth grade be placed upon the board and the pupils be requested to consider in what order they would rank these classics. The following day the vote can be taken either viva voce or by ballot. Pupils should be cautioned to include all the classics, ranking their preference first, the second best second, etc. The vote may be similarly carried on in each grade."

In assembling the data for the tables which follow, no results were included for classics which had not been read in at least two schools or in classes enrolling an aggregate of fifty pupils. Thus results for a large number of classics rather infrequently studied are not included; some of these may have been read with marked success; the study indicates the reactions of pupils to the classics listed.

It should be explained that columns 1-10 in the tables represent the consolidation of pupil votes asked for in the questionnaire. Column 11 gives the totals of these votes. Column 12 carries the number of schools voting on any given classic; the figures in this column probably indicate the popularity of the classic with teachers. Column 13 lists the number of last choices; in schools reading five classics the fifth choices are last choices, in schools reading only two classics, the second choices are last choices, etc.; the figures in this column indicate the number of pupils whose reaction to the classic is, "This is the least successful of the classics we read."

This latter situation coupled with the number of first choices suggests a method of arriving at a judgment concerning pupil popularity. In the tables given below the principle of determining pupil popularity by first and last choices was discarded for a weighting system which will be described presently. However, for convenience in comparing first and last choices the percentages of these have been listed in columns 14 and 15.

The results of the weighting system are to be found in columns 16 and 17. The system employed is that of assigning a value of 6 to every first choice, 5 to every second choice, 4 to every third choice, 3 to every fourth choice, 2 to every fifth choice, 1 to every sixth choice, none to every seventh choice, –1 to every eighth choice, –2 to every ninth choice, and –3 to every tenth choice. The total number of points thus obtained is indicated in column 16; the pupil popularity index in column 17 is obtained by dividing the number of points (col. 16) by the number of votes (col. 11).

The weighting system adopted is open to the objections usually advanced against such systems. The assignment of values is arbitrary; it will be noted, however, that the interval between successive values is constant. The system was adopted here in order to give definite results as nearly correct as possible. Anyone interested in securing results on a different basis may do so by applying his method to the pupil votes recorded in columns 1-13 of the various tables.

For Table of

APPENDIX E

See Following Pages

Pupil Popularity of English Classics

NINTH GRADE

	1 First Choice	2 Second Choice	3 Third Choice	4 Fourth Choice	5 Fifth Choice	6 Sixth Choice	7 Seventh Choice	8 Eighth Choice	9 Ninth Choice	10 Tenth Choice	11 Total Votes	12 No. Schools Voting	13 No. Last Choices	14 Pct. Last Choices	15 Pct. First Choices	16 Total Points	17 Pupil Popularity Index
NOVELS:																	
Cooper—The Last of the Mohicans	72	111	34	23	15	8	2	8	....	....	273	3	17	.06	.26	1222	4.48
Dickens—David Copperfield	5	3	2	3	....	1	....	....	....	....	14	2	3	.21	.36	63	4.50
Dickens—Tale of Two Cities	2	3	4	1	....	....	....	....	....	....	10	2	3	.30	.20	46	4.60
Eliot—Silas Marner	98	49	34	15	8	2	....	....	....	....	206	19	40	.19	.48	1032	5.01
Poe—Gold Bug	3	11	12	9	2	1	....	....	....	....	38	5	7	.18	.08	153	4.03
Scott—Ivanhoe	203	123	43	29	19	10	20	....	....	....	447	13	47	.11	.45	2140	4.79
Scott—Quentin Durward	1	8	1	....	3	....	....	....	....	....	13	2	4	.31	.08	56	4.31
Stevenson—Treasure Island	172	110	95	10	2	3	....	....	....	....	392	16	105	.27	.44	1999	5.10
Total	556	418	225	90	49	25	22	8	....	....	1393	62	226	.16	.40	6711	4.82
SHORT STORIES:																	
Irving—Sketch Book	7	14	35	5	4	2	....	....	....	....	67	6	38	.57	.10	277	4.13
Poe—Short Stories	1	11	7	1	2	....	....	....	....	....	22	2	8	.36	.05	96	4.36
Selections from Old Testament	2	1	13	55	6	4	....	....	....	....	81	4	60	.74	.02	250	3.09
Collections of Short Stories	25	22	55	64	44	37	11	....	....	....	258	13	101	.39	.10	797	3.09
Total	35	48	110	125	56	43	11	....	....	....	428	25	207	.48	.08	1420	3.32
ESSAYS AND ORATIONS:																	
Antin—The Promised Land	11	11	15	11	15	18	16	36	11	....	144	7	16	.11	.08	204	1.42
Burroughs—Birds and Bees	14	16	39	29	52	25	4	5	....	....	184	3	9	.05	.07	531	2.89
Burroughs—Sharp Eyes	7	2	3	10	9	1	....	....	....	....	32	4	7	.22	.22	113	3.53
Franklin—Autobiography	11	33	28	34	50	90	42	28	....	....	316	10	48	.15	.03	607	1.92
Parkman—The Oregon Trail	4	6	1	8	1	2	....	....	....	....	22	3	6	.27	.18	86	2.09
Miscellaneous Essay Collections—(Addison, Emerson, Lamb, Lowell, Mills, Macaulay, Riis, Seton, Warner)	17	21	30	28	32	26	18	9	....	....	181	5	16	.09	.09	492	2.72
Total	64	89	116	120	159	162	80	78	11	....	879	32	102	.12	.07	2033	2.31

DRAMA:																	
Shakespeare—As You Like It	5	8	7	8	2	....	....	....	....	....	30	2	3	.10	.11	126	4.20
Shakespeare—Julius Caesar	46	50	81	83	38	32	28	19	1	....	378	29	80	.21	.12	1207	3.19
Shakespeare—Merchant of Venice	149	206	169	56	26	16	4	....	1	....	627	21	119	.19	.24	2834	4.52
Total	200	264	257	147	66	48	32	19	2	....	1035	52	202	.20	.19	4146	4.01
LONGER NARRATIVE POEMS:																	
Arnold—Sohrab and Rustum	12	13	16	20	1	....	....	....	....	....	62	3	21	.34	.19	263	4.24
Coleridge—The Rime of the Ancient Mariner	12	16	20	25	8	1	....	....	....	....	82	5	31	.37	.17	324	3.90
Homer—Selections from the Iliad	3	2	21	1	....	....	....	....	....	....	27	3	17	.63	.11	115	4.26
Homer—Selections from the Odyssey	10	13	10	10	6	....	....	....	....	....	49	4	14	.29	.20	207	4.22
Longfellow—Tales of a Wayside Inn	8	21	36	41	21	26	11	....	....	....	164	2	11	.07	.05	488	2.98
Lowell—The Vision of Sir Launfal	18	14	13	....	....	....	....	....	....	....	45	2	27	.60	.40	230	5.11
Scott—The Lady of the Lake	259	217	166	58	24	10	3	2	2	....	741	43	163	.22	.35	3525	4.76
Tennyson—Enoch Arden	80	57	45	38	14	7	6	1	....	....	248	5	16	.06	.32	1093	4.41
Tennyson—Idylls of the King	6	5	6	4	1	....	....	....	....	....	22	3	5	.23	.27	99	4.50
Miscellaneous Longer Narrative Poems—(Byron, Cooper, Scott, Tennyson, Wordsworth)	4	10	16	13	8	3	....	....	....	....	54	9	14	.26	.07	196	3.63
Collections of Shorter Narrative Poems	7	13	29	35	16	19	....	....	....	....	119	11	35	.30	.06	379	3.18
Total	419	381	378	245	99	66	20	3	2	....	1613	90	354	.22	.26	6923	4.29
LYRIC POEMS:																	
Burns—Cotter's Saturday Night and Other Poems																	
Poe—Poems	1	2	3	8	9	5	....	....	....	....	28	4	10	.36	.04	75	2.68
Collections of Lyric Poems—(Byron, Coleridge, Shelley)	9	5	7	16	4	1	....	....	....	....	42	3	12	.29	.21	164	3.90
Collections of Shorter Narrative Poems	10	7	7	23	9	1	....	....	....	....	57	10	7	.12	.18	211	3.70
Total	20	14	17	47	22	7	....	....	....	....	127	17	29	.23	.16	450	3.54

TENTH GRADE

	1 First Choice	2 Second Choice	3 Third Choice	4 Fourth Choice	5 Fifth Choice	6 Sixth Choice	7 Seventh Choice	8 Eighth Choice	9 Ninth Choice	10 Tenth Choice	11 Total Votes	12 No. Schools Voting	13 No. Last Choices	14 Pct. Last Choices	15 Pct. First Choices	16 Total Points	17 Pupil Popularity Index
NOVELS:																	
Dickens—The Tale of Two Cities	230	143	80	67	15	17	5	3	10	....	570	14	34	.06	.40	2640	4.63
Eliot—Silas Marner	193	82	51	14	6	1	....	....	....	....	347	20	13	.04	.56	1827	5.27
Hawthorne—The House of Seven Gables	75	31	34	16	6	19	....	....	....	....	181	7	38	.21	.41	820	4.53
Scott—Ivanhoe	122	52	29	11	2	4	1	....	....	....	221	21	11	.05	.55	1149	5.15
Stevenson—Treasure Island	27	32	25	17	22	18	4	4	8	9	166	2	9	.05	.16	488	2.94
Other Novels—(Blackmore, Churchill, Goldsmith, Hugo, Scott, Wallace)	71	56	59	54	27	24	....	....	....	....	291	4	28	.10	.25	1182	4.06
Total	718	396	278	179	78	83	10	7	18	9	1776	68	133	.07	.40	8106	4.56
SHORT STORIES:																	
Irving—Selections from the Sketch Book	10	44	39	59	68	60	32	22	14	7	355	7	14	.04	.03	738	2.08
Poe—Selected Tales	28	48	31	42	50	57	32	20	14	9	331	6	29	.09	.08	740	2.24
Collections of Short Stories	18	17	13	14	23	3	....	....	....	....	88	10	27	.30	.20	336	3.82
Total	56	109	83	115	141	120	64	42	28	16	774	23	70	.09	.07	1814	2.34
ESSAYS AND ORATIONS:																	
Burroughs—Birds and Bees	....	1	2	6	4	7	....	....	....	....	20	3	11	.55	....	46	2.30
Burroughs—Sharp Eyes	1	3	2	3	4	13	....	....	....	....	26	2	13	.50	.04	59	2.27
Franklin—Autobiography	2	2	11	6	....	12	....	....	....	....	33	2	18	.55	.06	96	2.91
Stevenson—Travels With a Donkey, Inland Voyage	19	16	6	5	4	11	....	....	....	....	61	8	12	.20	.31	252	4.16
Miscellaneous Essay Collections—(Addison, Emerson, Lamb, Lowell, Mills, Macaulay, Riis, Seton, Warner)	26	48	97	28	14	19	....	....	....	....	232	13	116	.50	.11	915	3.94
Orations—(Burke, Washington, Webster)	10	10	23	26	31	53	72	55	83	59	442	3	59	.14	.02	....	....
Total	58	80	141	74	57	115	72	55	83	59	794	31	229	.29	.07	1365	1.72

DRAMA:																	
Shakespeare—As You Like It	11	15	15	14	2	6	....	....	....	....	63	7	14	.22	.17	253	4.02
Shakespeare—Julius Caesar	56	114	103	108	78	48	32	18	4	6	567	20	62	.11	.10	1820	3.21
Shakespeare—Macbeth	9	9	23	20	12	8	....	....	....	....	81	8	19	.23	.11	283	3.49
Shakespeare—The Merchant of Venice	64	53	43	15	12	4	....	....	....	....	191	24	12	.06	.34	894	4.68
Shakespeare—Midsummer Night's Dream	20	19	38	59	6	6	....	....	....	....	148	6	58	.39	.14	562	3.73
Total	160	210	222	216	110	72	32	18	4	6	1050	65	165	.16	.15	3812	3.63
LONGER NARRATIVE POEMS:																	
Arnold—Sohrab and Rustum	16	13	12	46	7	8	1	....	....	....	103	11	38	.36	.16	369	3.58
Coleridge—The Rime of the Ancient Mariner	12	17	30	43	39	55	....	....	....	....	196	23	61	.31	.06	539	2.75
Homer—Selections from the Iliad	27	26	43	4	2	5	....	....	....	....	107	2	43	.40	.25	485	4.53
Lowell—The Vision of Sir Launfal	6	12	10	13	15	7	....	....	....	....	63	9	11	.17	.10	212	3.37
Scott—The Lady of the Lake	14	37	10	11	1	5	....	....	....	....	78	7	5	.06	.18	349	4.47
Tennyson—Enoch Arden	17	22	27	13	14	2	....	....	....	....	95	12	21	.22	.18	389	4.09
Tennyson—Idylls of the King	36	37	33	41	25	14	....	....	....	....	186	15	31	.17	.19	720	3.87
Miscellaneous Longer Narrative Poems—(Byron, Cooper, Scott, Tennyson, Wordsworth)	3	12	23	9	5	4	....	....	....	....	56	5	8	.14	.05	211	3.78
Collections of Shorter Narrative Poems	....	3	19	3	6	4	....	....	....	....	35	2	22	.63	....	116	3.31
Total	131	179	207	183	114	104	1	....	....	....	919	86	240	.26	.14	3390	3.69
COLLECTIONS OF SHORTER POEMS:																	
Bryant—Thanatopsis and Other Poems	15	21	32	34	37	37	43	43	23	11	296	2	14	.05	.05	436	1.47
Poe—Poems	26	46	25	30	40	48	....	....	....	....	215	1	48	.22	.12	704	3.27
Collections of Lyric Poems—(Byron, Coleridge, Shelley)	....	8	11	22	26	20	1	....	....	....	88	7	24	.27	....	222	2.52
Total	41	75	68	86	103	105	44	43	23	11	599	10	86	.14	.07	1362	2.27

ELEVENTH GRADE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	First Choice	Second Choice	Third Choice	Fourth Choice	Fifth Choice	Sixth Choice	Seventh Choice	Eighth Choice	Ninth Choice	Tenth Choice	Total Votes	No. Schools Voting	No. Last Choices	Pct. Last Choices	Pct. First Choices	Total Points	Pupil Popularity Index
NOVELS:																	
Blackmore—Lorna Doone	132	44	14	2	8	8	8	....	....	....	216	1	8	.04	.61	1098	5.08
Dickens—David Copperfield	54	97	24	13	8	19	3	....	....	....	218	1	3	.01	.25	979	4.49
Dickens—Tale of Two Cities	49	27	12	8	1	....	....	....	....	....	97	10	29	.30	.51	503	5.19
Eliot—The Mill on the Floss	4	3	3	1	1	1	....	....	....	....	13	2	2	.15	.31	57	4.38
Eliot—Silas Marner	25	31	12	5	6	1	....	....	....	....	80	8	17	.21	.31	381	4.76
Hawthorne—The House of Seven Gables	16	23	29	2	8	....	....	....	....	....	78	2	15	.19	.21	349	4.47
Total	280	225	94	31	32	29	11	....	....	....	702	24	74	.11	.40	3367	4.80
SHORT STORIES:																	
Irving—Sketch Book	18	31	30	18	20	7	....	....	....	....	124	5	13	.10	.15	484	3.90
Poe—Short Stories	14	10	26	19	6	9	....	....	....	....	84	4	26	.31	.17	316	3.76
Collections of Short Stories	6	5	5	15	12	1	....	....	....	....	44	3	13	.30	.14	151	3.43
Total	38	46	61	52	38	17	....	....	....	....	252	12	52	.21	.15	951	3.77
ESSAYS AND ORATIONS:																	
Addison—Sir Roger de Coverley Papers	6	16	30	48	65	69	....	....	....	....	234	5	74	.32	.03	579	2.47
Burke—Speech on Conciliation with the Colonies	5	7	9	3	7	....	....	....	....	....	31	2	10	.32	.16	124	4.00
Carlyle—Essay on Burns	6	7	14	13	22	33	....	....	....	....	95	4	38	.40	.06	243	2.56
Emerson—Selected Essays	5	2	....	2	7	14	....	....	....	....	30	5	21	.70	.17	74	2.13
Franklin—Autobiography	....	....	4	11	20	25	....	....	....	....	60	4	25	.42	....	114	1.90
Lincoln—Gettysburg Address, Second Inaugural and Other Speeches	3	5	10	17	5	....	....	....	....	....	40	5	6	.11	.08	144	3.60
Washington—Farewell Address and Other Speeches	10	4	11	31	31	1	....	....	....	....	88	5	7	.08	.11	280	3.18
Webster—Bunker Hill and Other Addresses	3	2	12	12	11	1	....	....	....	....	41	5	17	.41	.07	135	3.29
Miscellaneous Essay Collections—(Bacon, Holmes, Huxley, Lamb, Stevenson)	3	6	4	16	3	3	....	....	....	....	35	4	5	.14	.09	121	3.49
Total	41	49	94	153	171	146	....	....	....	....	654	39	203	.31	.06	1814	2.77

DRAMA:																	
Goldsmith—She Stoops to Conquer	25	6	13	3	3	...	....	....	....	....	50	5	4	.08	.50	247	4.94
Shakespeare—Hamlet	28	23	20	18	6	....	....	....	....	....	95	6	5	.05	.29	429	4.52
Shakespeare—Macbeth	57	71	44	23	21	2	....	....	....	....	218	25	26	.12	.26	986	4.52
Shakespeare—Twelfth Night	21	14	26	10	11	1	....	....	....	....	83	7	21	.25	.25	353	4.25
Other Shakespearean Plays	26	24	20	3	1	2	....	....	....	....	76	6	5	.07	.34	369	4.85
Total	157	138	123	57	42	5	....	....	....	....	522	49	61	.12	.30	2384	4.57
LONGER NARRATIVE POEMS:																	
Byron—The Prisoner of Chillon	13	6	30	44	34	26	....	....	....	....	153	1	26	.17	.09	454	2.97
Chaucer—Prologue to the Canterbury Tales	2	4	8	6	8	21	....	....	....	....	49	5	22	.45	.04	119	2.43
Coleridge—Rime of the Ancient Mariner	21	20	37	74	64	47	....	....	....	....	263	6	47	.18	.08	771	2.93
Tennyson—Idylls of the King	20	35	26	14	12	6	....	....	....	....	113	17	19	.17	.18	471	4.17
Miscellaneous Longer Narrative Poems—(Arnold, Byron, Longfellow, Lowell, Scott, Spenser, Tennyson, Whittier)	18	20	20	20	14	11	....	....	....	....	103	11	11	.11	.17	387	3.76
Total	74	85	121	153	132	111	....	....	....	....	631	40	125	.18	.11	2202	3.23
COLLECTIONS OF SHORTER POEMS:																	
Browning—Selected Poems	1	8	14	18	12	5	..	..	....	....	58	8	15	.26	.02	185	3.19
Burns—Selected Poems	29	13	6	8	5	....	....	....	...	...	61	3	....	....	.48	297	4.87
Goldsmith—The Deserted Village, The Traveler	5	7	10	17	31	8	...	....	...	....	78	5	16	.21	.06	226	2.09
Gray—Elegy Written in a Country Churchyard and Other Poems	4	6	11	24	18	2	....	....	....	....	65	3	5	.08	.06	208	3.20
Longfellow—Selected Poems	28	14	6	...	....	...	....	....	...	....	48	3	....	....	.58	262	5.46
Milton—Minor Poems	8	16	14	21	17	1	....	....	....	....	77	5	14	.18	.10	282	3.66
Tennyson—Selected Poems	4	3	5	8	....	....	....	....	....	....	20	3	....	....	.20	83	4.15
Whittier—Snow-Bound and Other Poems	3	19	12	8	6	2	....	...	....	...	50	2	2	.04	.06	199	3.98
Miscellaneous Collections—(Bryant, Byron, Coleridge, Holmes, Keats, Norris, Palgrave, Poe, Shelley, Wordsworth)	26	20	33	25	33	12	....	....	....	....	149	11	18	.12	.17	541	3.63
Total	108	106	111	129	122	30	....	....	....	....	606	43	70	.12	.18	2283	3.77

TWELFTH GRADE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	First Choice	Second Choice	Third Choice	Fourth Choice	Fifth Choice	Sixth Choice	Seventh Choice	Eighth Choice	Ninth Choice	Tenth Choice	Total Votes	No. Schools Voting	No. Last Choices	Pct. Last Choices	Pct. First Choices	Total Points	Pupil Popularity Index
NOVELS:																	
Dickens—The Tale of Two Cities	24	5	4	1	3	....	....	....	....	....	37	5	2	.05	.65	194	5.24
Eliot—Silas Marner	35	39	38	19	17	14	....	....	....	....	162	3	15	.09	.22	662	4.09
Goldsmith—The Vicar of Wakefield	13	24	23	33	21	22	....	....	....	....	136	2	22	.16	.10	453	3.18
Hawthorne—The House of Seven Gables	21	6	...	5	1	1	....	....	....	....	34	2	4	.12	.62	174	5.12
Other Novels—(Blackmore, Cooper, Eliot, Goldsmith, Hawthorne, Scott, Thackeray)	49	31	26	16	11	8	....	....	....	....	141	7	9	.06	.35	631	4.48
Total	142	105	91	74	53	45	....	....	....	....	510	19	52	.10	.28	2114	4.15
SHORT STORIES:																	
Irving—Selections from the Sketch Book	17	8	15	14	9	7	....	....	....	....	70	3	8	.11	.24	269	3.81
Poe—Selected Tales	13	17	21	7	13	4	....	....	....	....	75	3	9	.12	.17	298	3.97
Collections of Selected Short Stories	1	15	8	18	2	2	....	....	....	....	46	6	18	.39	.02	173	3.76
Total	31	40	44	39	24	13	....	....	....	....	191	12	35	.18	.16	740	3.87
ESSAYS AND ORATIONS:																	
Addison—Sir Roger de Coverley Papers	4	18	10	8	6	17	....	....	....	....	63	2	17	.27	.06	207	3.29
Bacon—Selected Essays	1	3	3	1	8	....	....	....	....	....	16	3	3	.19	.06	52	3.25
Burke—Speech on Conciliation with the Colonies	2	3	9	3	10	6	....	....	....	....	33	5	17	.52	.06	98	2.97
Carlyle—Essay on Burns	3	4	9	27	15	14	....	....	....	....	72	2	21	.29	.04	199	2.76
Emerson—Selected Essays	4	9	4	10	17	25	....	....	....	....	69	3	31	.45	.06	174	2.52
Franklin—Autobiography	....	2	7	24	19	36	....	....	...	....	88	3	48	.55	....	184	2.09
Miscellaneous Essay Collections—(Bacon, Holmes, Huxley, Lamb, Stevenson)	35	13	12	12	31	31	....	....	....	....	126	8	36	.29	.28	436	3.46
Total	49	52	54	85	98	129	....	....	....	....	467	26	173	.37	.10	1350	2.89

DRAMA:																	
Shakespeare—Hamlet	107	58	31	12	16	9	....	....	....	....	233	17	19	.08	.46	1133	4.86
Shakespeare—Macbeth	42	52	48	41	29	18	....	....	....	....	230	7	20	.09	.18	903	3.93
Other Shakespearean Plays	6	12	15	12	2	....	....	....	....	....	47	5	9	.19	.13	196	4.17
Total	155	122	94	65	47	27	....	....	....	....	510	29	48	.09	.30	2232	4.38
LONGER NARRATIVE POEMS:																	
Beowulf	7	4	1	1	3	5	....	....	....	....	21	2	9	.43	.33	80	3.80
Byron—The Prisoner of Chillon	8	14	10	11	11	....	....	....	....	....	54	2	10	.19	.13	213	3.94
Chaucer—Prologue to the Canterbury Tales	14	25	32	41	26	63	....	....	....	....	201	8	63	.31	.07	575	2.86
Milton—Selections from Paradise Lost	9	3	8	11	4	1	....	....	....	....	36	3	8	.22	.25	143	3.97
Tennyson—Idylls of the King	88	47	31	20	16	16	....	....	....	....	218	6	17	.08	.40	995	4.56
Miscellaneous Longer Narrative Poems—(Arnold, Byron, Longfellow, Lowell, Scott, Spencer, Tennyson, Whittier)	15	20	29	23	16	6	....	....	....	....	109	6	6	.06	.14	413	3.78
Total	141	113	111	107	76	91	....	....	....	....	639	27	113	.18	.22	2419	3.79
COLLECTIONS OF SHORTER POEMS:																	
Milton—Minor Poems	31	40	46	61	54	47	....	....	....	....	279	13	60	.22	.11	908	3.25
Tennyson—Selected Poems	5	7	10	7	5	1	....	....	....	....	35	4	3	.09	.14	137	3.91
Whittier—Selected Poems	13	16	11	9	9	4	....	....	....	....	62	2	4	.06	.21	251	4.05
Miscellaneous Collections—(Bryant, Byron, Coleridge, Holmes, Keats, Norris, Palgrave, Poe, Shelley, Wordsworth)	19	18	17	31	33	30	....	....	....	....	148	10	31	.21	.13	461	3.11
Total	68	81	84	108	101	82	....	....	....	....	524	29	98	.19	.13	1757	3.35

The results given in the tables above represent the votes of 3553 pupils in 166 classes of 73 different high schools. Schools, pupils, and classics for which results are tabulated above may be given distributively by high school grades as follows:

ITEMS SUMMARIZED	Ninth Grade	Tenth Grade	Eleventh Grade	Twelfth Grade
Number of schools participating	66	63	39	28
Number of pupils participating	1329	1034	665	525
Range in number of classics read	2—6	2—7	2—7	2—10
Average number of classics read	4.54	4.71	4.97	4.92
Median number of classics read	4	5	5	5

It is not believed that pupil tastes should form the only basis for selection of readings. Any plan which in determining choices should ignore such important factors as special ability of the teacher or balance in the course would be highly objectionable. No one will contend that an instructor is likely to be successful in teaching a classic which she herself does not appreciate; no one will maintain that a high school literature course should consist exclusively of novel reading no matter how much the pupils may prefer novels or the instructor enjoy teaching this type of literature. However, if school experiences with reading shall develop in pupils a liking for literature, it is time that some attention be paid to pupil tastes when class readings are being selected. The results of the study indicate within limits which classics are taught with the greatest success by the average teacher.

COURSE OF STUDY

State of Montana

HIGH SCHOOL

Foreign Languages

Elizabeth Ireland
State Superintendent of Public Instruction
Helena

1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in French, Spanish, German, and Latin is being offered as a tentative program for the field of foreign languages (modern and classical) in the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and the Teachers of Foreign Languages send from time to time, as this course is used, suggestions for its improvement.

Grateful acknowledgment is made to Montana Educators, and to the Foreign Language Committee, in particular, for their kindly cooperation with the State Department of Public Instruction in formulating the subject matter contained herein. Valuable assistance was obtained from courses of study from other states and from new texts furnished by Publishing Companies.

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ELIZABETH IRELAND,
Superintendent of Public Instruction.

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Foreign Languages

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PART ONE—GENERAL SUGGESTIONS

I. General Statement

The purposes of foreign languages have undergone many changes in recent years. Formerly modern languages were taught much the same as were Latin and Greek thirty years ago in this country—following rather strict grammatical and technical analysis of the language. Later the practical value of the modern foreign language was stressed in contrast to the disciplinary and cultural values of study. Since the Great World War new objectives for modern language study have been set up for our educational and instructional programs. The new points of view emphasize an orientation in the direction of practical study of the foreign country as well as broadening aesthetic and humanistic educational objectives.

The added concept of "foreign nation study", as one of the forward-looking trends in objectives for modern language study, has been interpreted as a knowledge of a foreign country which affords not only, as formerly, a one-sided literary, historical, and aesthetic appreciation, but also a knowledge of the foreign country from the point of view of its national needs and institutions, its ambitions, its social and political modes of thought, and an understanding of the problems of political economy that affect the country using the native language which is being studied. Therefore, the aims and purposes would be to comprehend and to make clear the multitude of linguistic, literary, sociological, psychological, political, and aesthetic phenomena in their connections and mutual inter-relationships as the expression of a civilization.

This humanistic educational ideal is not an extension merely of the field of subject matter ordinarily included in the field of language study, but a viewpoint by which the individual phases of the work are approached. How does the foreign character express itself? What fundamental characteristics can be recognized? What attitudes toward the world appear? All these and kindred questions should be answered. It is not a question of reading or knowing everything about a foreign nation, but a problem of purposeful and well-directed selection. The purpose of this knowledge of a foreign people is not to be a mere compilation of facts about foreign things, but of their value, and through this knowledge to gain a sympathetic, appreciative understanding of the foreign people and an appreciation of their mode of thinking. (Adapted from Teachers College Bulletin, Columbia University, Twenty-third Series, No. 2, December, 1931.)

II. Administrative Problems

A. Number of units offered

This course of study in foreign languages has been prepared to fit conditions in Montana high schools. It includes an outline for two years of work in those languages which are being offered to any considerable extent in the State. Only a few of the larger schools in Montana are justified in offering more than two years of any foreign language, which fact the committee took into consideration in limiting the length of the outlines.

The State Department of Public Instruction recommends that only on very rare occasions should a high school student be permitted to present only one unit of a foreign language (modern or classical) towards graduation. If, however, a student has completed satisfactorily one unit of a foreign language, and if in the judgment of the principal and teacher the one unit has been educationally profitable to the student, the one unit completed may be credited towards graduation. While the credit may be counted towards graduation it should be understood by the student that practically none of the colleges and universities will accept one credit in a foreign language to satisfy the foreign language requirement. It is recommended by the State Department of Public Instruction that, as a general practice, when a foreign language (modern or classical) be pursued the student be required to complete at least two full units of the foreign language and that no credit be given for the first unit towards graduation until the second unit be completed.

B. Qualifications and training of teachers of foreign languages

While the standards of accrediting set up by the State Board of Education recommends that teachers of high school subjects be graduates, or the equivalent, of fully accredited four-year colleges or universities, and that the practice of teachers being assigned to teach subjects outside their major fields of preparation be discouraged, the State Department of Public Instruction further recommends that teachers of foreign languages should have as a minimum preparation the following prerequisites:

1. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in the foreign language to be taught. If it seems advisable, the school system employing the teacher may deduct five hours for each unit of credit earned in high school in a foreign language.
2. A good knowledge of the principles of pronunciation and an acquaintance with the phonetic symbols
3. A mastery of the grammar
4. If the foreign language be one of the modern languages, a good pronunciation and sufficient command of the modern language to be able to conduct a recitation in it
5. Ability to real the modern language easily
6. A sympathetic understanding of the life, customs, history, and literature of the country
7. Wide-awake alertness to every opportunity for improvement and enthusiasm, plus interest in the work

III. Aims in Modern Foreign Languages

A. General aims

1. Cultural

   To cultivate in an active way friendly relationships with other countries, and an appreciation of the literature, customs and ideals of the people whose language is being studied; such results being the outgrowth of a definite knowledge of geography, history, government and racial heritage

2. Practical and vocational

   To furnish a basis of knowledge for foreign travel, university study, the reading of scientific works, and business and professional success

3. **Disciplinary**

   To inculcate correct linguistic habits, which includes the development of logical thinking processes, of the ability to apply known data, of quick coordination of eye-and-ear perceptions, and of voluntary student responses, motivated by the ingenuity and enthusiasm of the teacher

4. **Ethical and social**

   To comprehend and to make clear the multitude of linguistic, literary, sociological, psychological, political, and aesthetic phenomena in their connections and mutual inter-relationships as the expression of a civilization; to discern how the foreign character expresses itself; to recognize the foreign fundamental characteristics; to perceive the attitudes expressed towards the outside world and to lay an intelligent understanding for world-mindedness

B. Specific aims

1. To acquire the ability to read the foreign language without recourse to translation
2. To acquire the ability to write the foreign language with grammatical accuracy
3. To give training sufficient to warrant the speaking of the foreign language with spontaneity when the occasion for conversation arises
4. To acquire some ability to appreciate and understand foreign attitudes, characteristics, and ideals which will assist in bringing about a viewpoint of world-mindedness

IV. Procedure

A. Pronunciation

Increasingly exacting standards demand a wider use of the foreign language in classroom work. To be able to meet this situation the teacher must have a ready command of the spoken tongue. This presupposes a thorough knowledge of phonetics. Meticulous drill, for the first two weeks, on the elements of pronunciation is an indispensable minimum of time to devote to this phase of language instruction. The fundamental vowel sounds, that is, the sounds of the vowel triangle, and the position of the tongue, the lips, and the jaws in the formation of these sounds, should be taught first. The diphthongs and triphthongs should then be presented, to be followed by the consonants. The alphabet may be presented next, and finally the principles involved in linking, and breathing. Grouping, intonation, and expression should be stressed. All these elements should be made the linguistic possession of the student before the first lesson in grammar is taught.

B. Oral work

1. **Conversation**

   As soon as pronunciation has been mastered, conversation should be stressed, if the teaching of a foreign language is to be made a dynamic process. Louis J. A. Mercier says, in effect, that there is no knowledge impression or power growth without self-expression, and no sufficient proof of power growth without oral expression. (Louis J. A. Mercier in **Junior French.**)

2. Devices

The devices employed in conducting the conversational part of a recitation will be commensurate with the teacher's ingenuity. Cards on which are printed the names of classroom objects may be used as a basis for first attempts at conversation. Sentences describing these objects may be written on the blackboard and then transferred to a notebook, to serve as the next day's conversation material. Questions and answers involving phrases of greeting and leave-taking, classroom directions, and idioms pertaining to weather may be handled in the same way. The reading text of the daily grammar lesson, if manipulated orally by the question-and-answer method, is an excellent check on the student's comprehension of material without the aid of English translation, as well as a stimulating means of motivating voluntary student responses. The teacher may further vary the procedure by putting on the blackboard sentence-completion exercises as a test of speed and accuracy in oral reactions. Finally, the unconscious acquisition of vocabulary and idiomatic expressions connected with memorization is invaluable as a means of permanent retention of oral material. Proverbs, anecdotes, poetry, or any memory assignment, should be reviewed and repeated, for without retention and frequent repetition, memory work defeats its own purpose.

C. Dictation

Dictation is an essential factor in coordinating eye-and-ear perceptions. After the first few weeks, dictation, based upon simple but unified sentences previously studied, should be introduced and continued, with increasingly difficult passages throughout the course. Good judgment should be the teacher's guide in the selection of material which is connected in thought, interesting in content, and of reasonable difficulty. While the pupils listen, the teacher should read the entire passage. Then, as he rereads it, dividing the sentences into THOUGHT GROUPS, phrases, or clauses, the pupils write what they hear. They may correct their own papers during the rereading of the passage, or they may exchange papers to correct one another's errors.

D. Reading

The reading lesson, the center of modern language instruction, should have as its primary aim an immediate comprehension of the material read without translation, which presupposes other important aims; namely, the fixing in the mind of vocabulary. constructions, and an inductive application of the principles of grammar. M. V. O'Shea states, in effect, that reading is a synthetic mental process; and in order that a pupil may learn to read readily and with understanding and appreciation, words must function merely as symbols, and not as objects of explicit attention in and for themselves. (Bulletin No. 16, 1927: The Reading of Modern Foreign Languages, by M. V. O'Shea.) The teacher may read the lesson first, while the class listens with their books closed, and again with books open. Then he may read the breath groups, and have the entire class, or an individual, repeat after him. To avoid direct translation, there may be frequent use of questions and answers, and in the second year, reproduction of content of reading material. However, enough time should be spent on careful translation to make certain that every pupil has a knowledge of the exact meaning of the English equivalent.

In the reading lesson, the teacher should find his golden opportunity to widen the child's cultural horizon by inculcating in him an appreciation of the customs and ideals of foreign peoples through their literature. An open-minded study of such human-interest materials as legends, short stories, poetry, simple plays, and books of travel, should unconsciously help to destroy national and racial prejudices. Can this aim be termed too visionary if it is the sacred duty of the public school to foster an enlightened public opinion with reference to foreign affairs?

E. Grammar

"Grammar does not make language; language makes grammar." (Lawrence A. Wilkins, New First Spanish Book.) Hence formal grammar study should be subordinated to the reading texts and manifold drill exercises. The grammar process, while essentially analytical, should be taught inductively. The student should be given the example from which he is to formulate the rule, but never a list of rules to be memorized. This procedure is the most psychological means of grammar manipulation, because it avails itself of the principle of association of ideas, on which the study of every language is based. Meaningless rules learned by rote make an automaton of the learner. Conversely, frequent variations of language material are steps toward self-expression, and the chance for motivated oral responses makes acceptable any stimulating drills to attain skill.

Since definite knowledge of grammatical relations is indispensable, relentless application of rules and repeated reviews of the principles of grammar are necessary. Sentences should be changed from the positive to the negative form, from the declarative to the interrogative, from the singular to the plural, from the first person to the third. Exercises with missing prepositions, pronouns, adjectives, and verbs are completed. Finally, the verb should receive special attention in all its persons, numbers, moods, tenses, voices, and radical irregularities. Any of these aims in the teaching of language is defeated unless the pupil achieves a basic knowledge of grammatical forms.

F. The assignment

This phase of language work is one of the acid tests of the teacher's skill and technique, for if the procedure means no more than so many pages to be studied, the recitation will be a dismal failure. The assignment should be not only definite and clear, but it should include specific devices for studying the next day's lesson. The teacher must analyze all possible pitfalls and show the class how to master a phonetic difficulty, an abstruse principle of grammar, a new tense of a verb, an idiomatic expression, or any other linguistically vital problem. Unless he does this, he has no right to test the preparation of the pupils for thoroughness in the recitation.

"In the last analysis, then, the successful teacher . . . will be the one . . . who realizes that a language is a habit-forming and not a fact subject, who perceives that appeal must be made to all the senses and faculties involved in learning a language, and who, because he knows that varying conditions require appropriately varying treatment, studies national and local needs . . . analyzes his own strong and weak points and those of his pupils, collectively and individually, and then evolves his own methods, which he applies with enthusiasm, resourcefulness, and good judgment." (L. A. Wilkins, Spanish in the High Schools, p. 72.)

PART TWO—FRENCH

I. Introductory Statement

That which has been written of foreign languages (classical and modern) in the General Suggestions setting forth the cultural, historical, utilitarian and social values is especially true of French because it is one of the rival languages of the English.

II. Aims

A. General aims (See General Suggestions)

B. Specific aims

1. **To develop an ability to speak, read, and write the French language by means of:**
   - a. Accurate pronunciation
   - b. Acquisition of a practical vocabulary
   - c. A mastery of the principles of French grammar necessary to a usable knowledge of the French language
   - d. A knowledge of French stories, games, songs, and drama

III. Attainments

Two units of credit should be given for the completion of two years of French. The work outlined under "Content" indicates what the scope of the course should be.

IV. Procedure

A. Pronunciation

Upon a correct pronunciation depends much of the character of the work done in any modern language. It is basic for work in grammar, in translation, in reading, and, of course, in speaking the language. The phonetic study of French gives greater faculty in learning and more assurance in speaking. Imitation is very important in good instruction but careful attention to phonetic principles is alone capable of bringing about good pronunciation. The teacher should note mispronunciation and correct it at once. Stress should be laid on tone placing, on the pitch of sounds, and on the use of the lips, since French is essentially a lip language. The foundation for pronunciation is the vowel triangle with attention given to accent and liaisons.

The procedure should be from sound to the symbol. During the first year, especially, every new word should be pronounced, first by the teacher and then by the pupils, both in concert and individually. Writing from dictation, reading aloud in class and at home, aural tests, chorus practice in reading, speaking, recitation of poetry, and singing are all valuable aids to good pronunciation.

B. Vocabulary

The vocabulary is the tool with which the child works. He should get his first impressions of the foreign word in sentences through the aural sense. He should then pronounce the word and later read and write it in sentences.

The vocabulary is of two kinds: the active vocabulary, consisting of words which a student is able to use in speaking and writing; and the passive vocabulary, consisting of words which he is able to recognize when he sees them in context. The latter is used in extensive reading for content only, to be done after a good foundation in French has been laid.

At first, a student will have a tendency to think of the foreign language in terms of English. However, if he is encouraged to connect objects and ideas with the native words and to cultivate self-expression, the tendency will be to make direct associations in French. Vocabulary drill by the showing of objects, acting, illustrating the use of antonyms and synonyms, noting French words that are used in English, and making wall posters are all valuable. Interest in vocabulary and verb drill may be created by such games as "spell-downs".

At least seventy-five idioms should be learned the first year.

C. Grammar

The grammar objective should be limited to such knowledge as is necessary for reading with comprehension. The principles of grammar should be introduced gradually in conjunction with the reading selections, the oral exercises and the written work. The unrelated sentence method should be entirely deprecated. It is needless to say that declensions and conjugations must be memorized, but in order that this work may not become mechanical, the forms should be used in complete sentences. The type exercises are: transformation of sentences involving gender, number, and tenses; filling in of forms and inflections; questions and answers in French. Whenever it is possible, grammar should be taught inductively. Phrases and sentences are heard, spoken, read and written. After many examples the pupil is led to discover for himself, or with the aid of the teacher, the grammatical principles involved.

D. Reading

The ultimate aim of reading is to acquire a knowledge of French civilization, institutions, customs and ideals through the foreign language itself. To read French intelligently is to get the meaning of the writer without translation. This implies the ability to recognize and make use of words, phrases, and idioms already learned and to observe the grammatical principles necessary for understanding the text. In the early elementary course the reading should be done intensively without emphasizing translation. Translation should be used only as a test or as an aid in obtaining the meaning of difficult passages.

Generally speaking, the first new reading matter should be studied in the class under the direction of the teacher, the homework consisting mainly of a review and a fixing of what has been taught in class. Much attention should be given to reading aloud for proper phrasing, sentence stress and intonation. Dictation and aural comprehension are important, for nothing will help a student grasp a sentence as a sentence so much as these exercises. Rather than translation, there are other exercises that lead to sentence comprehension. The simple question and answer method in French designed to bring out the content of the text is helpful, at first with books open, later with books closed, but always in complete sentences. This has the advantage of fixing the attention of the child on the French rather than on the English equivalent. Calling for synonyms, antonyms or parallel phrases is another gauge of comprehension, as are oral and written resumés and adaptations of the text.

After the teacher feels that a basic knowledge has been acquired through intensive reading, the extensive work may be given either in sight reading or reading for general comprehension as regular class work and as extra-curricular work. There should be placed in the classroom a stock of selected reading material that the student will read voluntarily. All reading should be so taught that the student will feel an appreciation for its value and a desire to continue his reading.

E. Oral and written work

Since the major part of the recitation is oral, it should be conducted in the foreign language. Most of the oral work, drill on vocabulary forms, agreements, and sentence structure should be based on the text, in connected discourse. Students ought to be required to frame questions as well as to answer them. If the text does not lend itself to oral work, as may be the case with books of literary merit, use simple short stories or anecdotes.

Oral work is followed by written work. A student should never be asked to write anything which he has not previously heard, read or studied. Some forms of home composition are transforming sentences, filling in blanks, writing questions and answers based on the text, and retranslation into the foreign language. In class it may take the form of writing from dictation, aural comprehension tests, writing resumés, or free composition. Pupils may be encouraged to correspond with pupils in French schools. (This may be initiated through the Peabody Institute, Nashville, Tennessee.)

F. Realia

One of the aims of instruction in foreign language is to arouse the interest of the pupils in the foreign nation and its position in the world of art, literature and science, in its institutions and ideals. The interest leads to a knowledge that tends to weaken national prejudices in favor of an international sympathy and judgment. Interest may be stimulated by the use of "Realia". Every modern language department should be provided with illustrative material, such as maps, books in English about the people and country, pictures, songs, records, and games. The walls of the classroom may be decorated with pictures, posters and charts.

The subject matter of the course will be more real, lively, and interesting when it is drawn from actual conditions with which the people speaking French are directly concerned. There is now a vast field from which the wide-awake teacher may draw material.

V. Content

First Semester

A. Pronunciation

The functions of the first lessons should be to teach the student definitely how to form habits of correct pronunciation and to fix these habits by drill and repetition. This means a preliminary drill for about three weeks. Part of each class period should be devoted to French, during which time no English should be permitted.

B. Grammar

1. Articles: Importance of correct form with the noun, definite, indefinite, singular and plural; contractions and the use of the partitive forms

2. Nouns: Gender and plural of regular nouns
3. Pronouns: Object pronouns; position as object of the verb, and of affirmative, and imperative, including reflexive forms; use of "qui", "que", "qu'est-ce que"
4. Adjectives: Agreement. position, formation of the feminine and plural of the regular adjectives; feminine of commonest irregular adjectives; list of common irregular adjectives that precede the noun; possessive forms
5. Numerals 1 to 101: Addition and subtraction; timetelling
6. Adverbs: Position in sentence
7. Prepositions: Use of "de" in possession
8. Verbs: Present tense, affirmative and negative, interrogative and imperative forms of the regular endings of the three conjugations and of "avoir" and "être"; reflexive verbs; present indicative of the following irregular verbs: **prendre, lire, voir, employer, aller, dormir, s'asseoir, faire, dire, écrire, sortir, mettre.** Verbs should be conjugated in sentences and the student taught to look first at the subject to determine the verb ending.

C. Dictation

Dictation should be given frequently but should be short, simple and based on material which has been thoroughly assimilated, (school life, home life, work and play).

D. Reading

Thought units connected with the immediate environment of the pupils; reading for pronunciation and sentence comprehension; stock of words, idioms and expressions pertaining to school, home, clothing, parts of the body, days, months, seasons, time, salutations.

E. Memorization

Proverbs, simple songs, key sentences

F. Realia

About one period a week should be spent on realia material, origin and development of the language. Material to be studied: geography of France, cities, government, industries, history. national traits, manners and customs, holidays, institutions, noted persons, games, songs, proverbs.

Second Semester

A. Pronunciation

Continued drill (sounds, words, sentences)

B. Grammar

1. Articles: Omission before nouns of occupation and nationality
2. Nouns: Irregular plurals of nouns in -s, -x, -z, -al, -eu, -eau, etc.
3. Pronouns: Personal, disjunctive, relative, interrogative, demonstrative, indefinite; use of y and en
4. Adverbs: Formation and position; adverbs from adjectives ending in -**ent** and -**ant**; comparison
5. Verbs: Present, imperfect, past indefinite, (recognition of) future, conditional of regular verbs; agreement of past participle; principal parts of three regular conjugations, of **avoir** and **être**; present of **venir, vouloir, pouvoir,** esperer, **savoir**; verbs conjugated with **être**; principal parts of the irregular verbs:

venir, pouvoir, vouloir, dire, faire, voir, croire; passive voice; compound tenses of reflexive verbs; use of present participle

C. Reading

For pronunciation and comprehension from material as basis for grammatical instruction or dealing with foreign environment

D. Miscellaneous

Continue memorization and dictation; include drill on seasons, months, days, weather, French money; study use of prepositions after verbs, nouns, adjectives

E. Realia

Detailed study of Paris, of the provinces, and of the French colonies

Third Semester

A. Pronunciation

Thorough review of rules of pronunciation with continuation of careful drill

B. Grammar

1. A summary of the essential elements of French already learned. The verb is the most important unit of the year's work.
2. Articles: Special uses, and omission of the articles
3. Adjectives: Continued drill on agreement; review of interrogatives and demonstratives; comparison
4. Verbs: Formation of all tenses from the principal parts; review of tense uses; agreement of past participles; use of the subjunctive after verbs of wishing, opinion, necessity, command, emotion, doubt, negation, after certain verbs used interrogatively, and after conditional sentences; the following irregular verbs to be learned: **aller, apercevoir, avoir, boire, courir, devoir, dire, envoyer, être, faire, falloir, mourir, pleuvoir, pouvoir, prendre, recevoir, savoir, tenir, voir, vouloir**; the use of the preposition with complementary infinitives

C. Reading

Classroom and home study of assigned texts; some elementary French history; silent and sight reading (to be tested for comprehension)

D. Composition

Prose work based on text; free composition (oral and written)

E. Miscellaneous

Dramatization; memorization; continuation of idioms; frequent dictation

F. Realia

The realia for this year includes special topics of interest that will arise in connection with the reading, as French history, schools, home, sports, chateaux, cathedrals, theatres, art, and correspondence with French students

Fourth Semester

A. Grammar

1. Pronouns: Review of all pronouns, and the use of two personal pronoun objects; conjunctive, disjunctive, and indefinite adjectives
2. Verbs: Agreement with antecedent of relative clause; formation and use of imperfect and pluperfect subjunctive; use of infinitive for subjunctive; continuation of study of irregular verbs

B. Reading

The assignment at first should be very short, about two or three pages, to allow time for intensive preparation. It may be paraphrased first by the teacher. The recitation should consist of answering questions on the content, giving resumés; memory work, dictation; analysis of grammatical principles; and a finished oral reading of the lesson. The first part of the book should always be read intensively so that the student may become accustomed to the author's style.

C. Miscellaneous

Continuation of memorization of idioms, proverbs, songs, poems, dramatization, dictation

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Professor A. L. Cru, Teachers College, Columbia University, New York

Slides and Motion Pictures

Visual Instruction Division, State Education Department, Albany, New York
University of Oklahoma, Department of Visual Education, Norman, Oklahoma
University of California, Department of Visual Education, 5 Geary Street, San Francisco
The Education Screen, 5 South Wabash Avenue, Chicago

Collections

Freeman, S. A., Realia for Modern Language Instruction. Middlebury College, Middlebury, Vermont
Dickson, Mrs. A. M., (Editor, Le Petit Journal)
Held, Helda K., Belmont High School, Belmont, Massachusetts

PART THREE—SPANISH

I. Introductory Statement

That which has been written of foreign languages (classical and modern) setting forth the cultural, historical, utilitarian and social values is true of Spanish. To some educators the utilitarian value of Spanish seems to be of particular influence because of the growing economic and political interests that our country has with Mexico and the Central and South American countries.

II. Specific Aims

The mastery of Spanish sounds, and sufficient oral instruction to warrant the carrying on of simple conversations are the first requisites of a course of study in Spanish. A strong foundation in the fundamentals of the grammar, syntax and vocabulary of the language follows. Finally, proficiency in reading and comprehending the content without translation, and the stimulation of interest in the literature of Spanish-speaking peoples should give the student an effective use of the language.

III. Attainments

A. Credits

Two units of credit are given for the completion of two years of Spanish

B. Scope of the course

Thirty chapters of grammar for first-year Spanish, and from twenty to twenty-five for second-year Spanish, should constitute an irreducible minimum of drill in this phase of language study. One standard reading text should be completed each year. If the reading material is selected from various texts, a minimum of one hundred pages should be covered in the first year, and from one hundred seventy-five to two hundred pages in the second year.

IV. Procedure

As has been stated in the General Suggestions, the training, experience, and resourcefulness of the teacher will largely determine the nature of the classroom procedure. Investigations of experts in the field of modern foreign languages have proved that an effective method is one which never loses sight of the aims pursued; it is flexible; and it adapts itself to the powers of the teacher and to the capacity of the students.

V. Content

First-Year Spanish

A. Pronunciation

Castilian pronunciation
Differences between the Castilian and Spanish-American
Vowel triangle
Position of tongue, lips, and jaws in forming Spanish sounds

Weak and strong vowels
Diphthongs
Consonants
Three rules for accentuation
Syllabication
Word, phrase, and sentence stress

B. Oral work

Expressions of greeting and leave-taking
Classroom directions
Conversations on connected material
Questions and answers on the text
Repetition of phrases, thought groups, and sentences
Memorization of proverbs, connected prose, anecdotes and poetry

C. Written work

Reproduction of all oral work
Spanish-to-Spanish dictation on previously studied material
Frequent vocabulary tests

D. Reading

Individual and concert work in reading must be made a daily practice. It is advisable that the greater part of the work in the reader be done in the second semester. New material must be read for content, without recourse to direct translation.

E. Grammar

1. Articles: Definite and indefinite, rules for the uses of the articles, gender and number, agreement with nouns, constructions with a and **de**
2. Nouns: Gender and number, rules for formation of plural
3. Adjectives: Gender and number, three rules for position, possessive, demonstrative, interrogative, apocopation, numerals, comparison
4. Personal pronouns: Subject, direct and indirect object, objects with implied and expressed prepositions, emphatic object forms, possessive, demonstrative, interrogative, relative
5. Verbs: The verb is the most important phenomenon in foreign language instruction . . . and should be the object of the most frequent and varied drills throughout the entire course. In order to learn verbs the student must say, see, hear, and write them. (Adapted from the Bulletin of the University of Wisconsin: Serial No. 1688, High School Series 26, pp. 19 and 20.)

   a. Verb drill

      Conjugation of the regular verbs in the following tenses—the present, past, descriptive, (imperfect) past absolute, (preterite) future, and conditional
      Conjugation of the frequently occurring irregular verbs—**ser estar, dar, decir, haber, hacer, ir, poder, poner, querer, tener, venir**, and **ver**
      The five rules for the uses of ser and **estar**, and many examples of these uses
      The complementary infinitive construction with **poder**
      The infinitive construction with prepositional phrases, such as **antes de, después de**, and with **para, sin, tener miedo de, tener razon de, tener ganas de**, etc.
      The ordinary verbs of motion requiring the preposition a plus the infinitive, such as **aprender, enseñar, ir, venir, comenzar**, and **volver**

Impersonal uses of **hacer** and **haber**: Expressions of weather with **hacer** and **haber**; expressions of time with **hacer** and **haber**
Idiomatic uses of **tener**: **Tener frío, tener calor, tener hambre, tener sed, tener años, tener las manos frias,** etc.
Reflexive verbs: Impersonal reflexive verbs, the reflexive verb as a substitute for the passive voice
Thorough study of **gustar**
Three classes of radical-changing verbs
Inceptive verbs
Verbs with orthographic changes

b. The following are a few devices useful for the mastery of verbs:

(1) The ordinary synopsis which calls for a complete summary of the verb, always in the same person and number
(2) The sliding synopsis which calls for a summary of the verb with the tense, person, and number varying from form to form, according to a previously announced order. For example: **yo hablo, tu hablabas, el hablará, vd. hablariá, nostros hemos hablado,** etc.
(3) A summary of the verb, consisting of the conventional principal parts plus outstanding irregularities; for example: **decir, diciendo, dicho, digo, dijo, dire, dí**
(4) Lay off a block of squares on the board, with sufficient vertical columns for all the tenses and horizontal columns for all the persons. Write the names of the tenses at the top of the vertical columns, and the persons at the left of the horizontal columns. Point to any square in the block and have the student give the form of the verb conjugated in the person and tense called for by the vertical and horizontal notations.
(5) The use of verb pads and charts published by several textbook companies

F. Miscellaneous

Cardinal and ordinal numerals 1-100
Time of day
Days of week
Months and seasons of year
Common idioms—**hágame vd. el favor de: tenga vd. la bondad de, et**

Second-Year Spanish

A. Pronunciation

Review of fundamental sounds
Drill on articulation and enunciation
Review of sentence stress

B. Oral work

Conversation based on grammar and reader texts
Reproduction of content of texts
Memorization of summaries of legends and other stories
Memorization of poems and proverbs
Short reports on outside reading

C. Written work

Frequent Spanish-to-Spanish dictation
Quizzes in the form of answers to questions based on the reading lesson

Reproduction of the poetry and prose memorized
Reports on outside reading
Letter writing, preferably correspondence with natives living in Spanish-America

D. Reading

Varied, colorful, and reasonably difficult material with Spanish-speaking countries as a background
Daily individual and concert work in reading
Constant practice in the reading of new material for content, without recourse to direct translation
Frequent outside reading assignments for extra credit

E. Grammar

Review of pronoun objects in both their emphatic and unemphatic forms
Review of pronoun object constructions with **gustar**
Review of demonstrative, interrogative, and possessive adjectives and pronouns
Comparison of adverbs
Detailed study of numerals, arithmetical signs, fractional numbers, Spanish money, etc.
Four types of conditional sentences
Uses of **para** and **por** with nouns and pronouns to express purpose, time, direction, destination, cause, manner, means, price, value, etc.
Indefinite and negative adjectives and pronouns
Negative adverbs and conjunctions
Augmentative and diminutive suffixes
Interjections and exclamations
The subjunctive in independent clauses
The subjunctive in dependent noun clauses
Indirect discourse
Sequence of tenses
The subjunctive in adjectival clauses
The subjunctive in adverbial clauses
Types of conditional sentences requiring the subjunctive

F. Verbs

A review of the uses of **ser** and **estar**, of the regular and irregular conjugations, and of reflexive and radical-changing verbs
Study of the progressive tenses
Difference between the progressive and absolute forms
Idiomatic uses of the future and conditional tenses
Types of action expressed by the past descriptive and past absolute tenses
The passive voice
    Review of the reflexive verb form; a substitute
    Uses of **ser** and **estar** with passive voice construction
    Agreement of past participle with subject in passive voice construction
    Agency with **de** and **por** in passive voice construction
Uses of **pero, mas,** and **sino** with verbs
Uses of **para** and **por** with the infinitive
Detailed study of verbs requiring the prepositions **a, de, en, para,** and **por,** as a sign of the infinitive
The subjunctive mood
    Conjugation of regular and irregular verbs in the present, past, (both r and s forms), and future tenses
    The subjunctive as a substitute for the imperative
    Memorization of the imperative forms of regular verbs and of the more common irregulars

VI. Bibliography

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Wilkins L. A. and Alpern, H., Exercise Book in Spanish and Spanish Verb Blanks. Globe Book Company, New York

D. Texts

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Pittaro, J. M., A Spanish Reader. D. C. Heath and Company, Chicago
Pittaro, J. M. and Green, A., Cuentos Contados. D. C. Heath and Company, Chicago
Wilkins, L. A., New Spanish Reader for Beginners. Henry Holt and Company, Inc., Chicago
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Hills, E. C. and Cano, Juan, Cuentos y Leyendas. D. C. Heath and Company, Chicago
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Espinosa, A. M., Elementary Spanish Reader. Benj. H. Sanborn and Company, Chicago
Harrison, E. S., Elementary Spanish Reader. Ginn and Company, Chicago
Marcial-Dorado, Carolina Primeras Lecturas de Español. Ginn and Company, Chicago
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Marcial-Dorado, Carolina Chispitas. Ginn and Company, Chicago

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Knight, W. E., Norte Y Sur. Johnson Publishing Company, Chicago
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DeVitis, M. A., Brief Spanish Grammar. Allyn and Bacon, San Francisco
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F. Tests

American Council Alpha Spanish Test. Tests covering the fields of vocabulary, grammar, silent reading, and composition. The World Book Company, Chicago
American Council Beta Spanish Test. Tests covering the fields of vocabulary, comprehension and grammar. World Book Company, Chicago
Columbia Research Bureau Spanish Test. Tests covering the fields of vocabulary, comprehension, and grammar. World Book Company, Chicago
Iowa Placement Examinations. Tests covering the fields of vocabulary, grammar, and comprehension. The Extension Division, University of Iowa, Iowa City, Iowa
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The Regents Questions and Answers in Spanish Tests covering the requirements of high school and college entrance. Regents Publishing Company, 31 Union Square, New York
The Stanford Spanish Tests. Tests covering the fields of grammar, vocabulary, paragraph meaning, sentence meaning, pronunciation. Stanford University Press, Stanford University, California
Wilkins Achievement Test in Spanish. A test based on Wilkins' New First Spanish Book. Henry Holt and Company, Inc., Chicago

PART FOUR—GERMAN

I. Introductory Statement

That which has been written of foreign languages (classical and modern) in the General Suggestions, setting forth the cultural, historical, utilitarian and social values, is true of German.

II. Aims

A. General

To develop:

1. Ability to read the German language with moderate ease and with enjoyment for recreational and vocational purposes
2. Ability to use orally and in intelligible fashion a small stock of German words, phrases, and sentences
3. An interest in the history, the institutions and the ideals of Germany, a better understanding of its contribution to civilization and a less provincial attitude toward the merits and achievements of the German people
4. Increased curiosity about the literature and the art of Germany and greater ability to understand and enjoy them
5. Greater interest in the accurate use of English
6. Increased understanding of the development and structure of all languages

B. Special

The teacher should endeavor to have his students acquire:

1. The ability to read books, newspapers, and magazines in German within the scope of the student's interests and intellectual powers
2. Such knowledge of German grammar as is demonstrated to be necessary for reading with comprehension
3. The ability to pronounce correctly, to understand and to use the language orally within the limits of class materials
4. A knowledge of Germany, past and present, and a special interest in the life and characteristics of the German people
5. An increased knowledge of the derivations and meanings of English words, of the principles and leading facts of English grammar and of the relationships between the German and English languages

(Adapted from "The Teaching of Modern Foreign Languages in the United States", by Algernon Coleman.)

III. Attainments

Two units of credit should be given for the completion of two years of German. The work outlined under "Content" indicates what the scope of the course should be.

IV. Procedure (See General Suggestions to Modern Languages

How a foreign language may most successfully be taught to the learner is a problem of vital importance to the teacher of languages.

While opinions differ as to classroom procedure, the following general principles are quite universally accepted. One cannot lay too carefully a solid foundation for the beginner.

A. During the first few weeks make no assignments which the student must prepare outside the classroom

B. Through the use of phonetic symbols, take great care in the teaching of pronunciation

C. The first work should be oral, not written; in fact, very little reading should be done during the initial learning period. As reading is gradually introduced, let it be presented orally to the class before it is presented to the eye

D. When teaching grammar, let the new forms be introduced in many phrases and sentences before proceeding to emphasize the rule

E. The word is not the unit of the language. Do not make a practice of introducing isolated words. Introduce new words in word-groups, i.e., in sentences and phrases.

F. There should be some memorizing of poems, proverbs, and songs. Dramatizing of short, interesting selections would be a great aid.

G. If the teacher has not a fluent command of German, he should not attempt a purely direct method of teaching. Every teacher can, however, employ to advantage many devices for obtaining direct association of thought.

H. Suggestions concerning the reading in German

   1. Acquiring a vocabulary is, under any conditions and circumstances, a most important part of learning a foreign language
   2. As far as possible, the language of the classroom should be in German. Through questions and answers based on the text, the student will be able to secure more confidence in the language. Complete sentences should be used as far as possible.
   3. Frequent dictation based on the reading should be given
   4. Grammatical construction should be taught inductively, that is, example should precede rule. Much drill is necessary.
   5. There should be sight reading of easy selections in class
   6. Written work should be based upon matter which has been thoroughly assimilated by hearing and speaking it
   7. Translation should be reduced to a minimum

The teacher cannot possess too thorough a background of the history and culture of Germany. As early in the course as is consistent, one should introduce to the class German folk customs, literature, music and art. Quite early in the course one can teach some of the simple folk songs. Poems like "Heindenröslein", "Vergissmeinnicht", "Du Bist Wie Eine Blume", "Wanderer's Nachtlied", and others, may be studied and memorized the first year.

From time to time, the instructor may animate the class work with discussions about modern German, her present problems and her relationship with the other countries of the world. The teacher should constantly strive to make the course a living, dynamic one; he should never reduce the class periods to a hard and fast study of grammar. Certain it is, fundamentals must be grasped and mastered, but remember, too, that there is a human interest side to the study of a foreign language, even in the first year.

V. Content

First Year

A. Reading

From fifty to seventy pages

B. Grammar

1. Articles: Declension of the definite and the indefinite articles
2. Adjectives: Mastery of weak and mixed declensions of adjectives. Strong declension should be left until the second year. Explain the strong declension of adjectives as examples appear in the reading.
3. Nouns: Gender, number, case, and formation of the plural. Avoid placing too much emphasis on a study of the classes of nouns.
4. Pronouns: Personal, relative, interrogative, possessive, demonstrative, reflexive
   Greatest amount of written and oral drill should be given to the personal and relative pronouns
5. Verbs: Conjugations of weak and the more common strong verbs with separable and inseparable prefixes; modal auxiliaries; irregular weak verbs
6. Prepositions: Drill on prepositions governing the dative, the accusative, and both the dative and the accusative
7. Conjunctions: Co-ordinating, subordinating
8. Word order: Normal, inverted, transposed

C. Written work

Reproduction of easy textual material
Punctuation
Easy dictation

D. Teaching devices for grammar

Flash cards
Wall charts
Written forms with blanks to fill in

Second Year

A. Reading

Varied material, a minimum of 150 pages. It is suggested that "Das Peterle von Nürnberg", "Immensee", "Der Bibliothekar", "Höher als die Kirche", "Das Edle Blut", "Robinson der Jüngere", "Germelhausen", "L'Arrabbiata", and others of like grade of difficulty be read.

B. Grammar

First four or six weeks should be devoted to a thorough review of the first year's grammar

1. Adjectives: The strong declension; comparison of adjectives
2. Pronouns: Demonstrative; pronomials
3. Verbs: Additional strong verbs and irregular weak verbs; passive voice; introduction to subjunctive; separable and inseparable prefixes; modal auxiliaries; most important verbs requiring the object in the dative; infinitives with zu

C. Written work

Reproduction of oral work
Short letters
Themes, two a month
Dictation

D. Dramatization

Little conversational scenes, selections taken from reading
Games

VI. Bibliography

A. General

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Handschin, Methods of Teaching Modern Languages. World Book Company, Chicago
Hastings, Studies in German Words and Their Uses. D. C. Heath and Company, Chicago
Hauch, German Idiom List. The Macmillan Company, San Francisco
Palmer, The Principles of Language Study. World Book Company, Chicago
Morgan, German Frequency Word Book. The Macmillan Company, San Francisco
Purin, The Training of Teachers of the Modern Foreign Languages. The Macmillan Company, San Francisco

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Fluegel, Dictionary of the German and English Languages. G. E. Stechert and Company, New York
Whitney, A Compendious German and English Dictionary. Henry Holt and Company, Inc., New York

C. Texts

First Year Reading

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Foster and Wooley, Geschichten und Märchen. D. C. Heath and Company, Chicago
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Guerber, Märchen und Erzählungen, Books I and II. D. C. Heath and Company, Chicago
Haertel, German Reader for Beginners. Ginn and Company, Chicago
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Lange, Easy German Reading. Allyn and Bacon, San Francisco
Müller and Wenckebach. Glückauf. Ginn and Company, Chicago
Ries, Easy German Stories. American Book Company, Chicago
Roessler, First German Reader. American Book Company, Chicago
Seeligmann, Altes und Neues. Ginn and Company, Chicago
Spanhoofd, Erstes Lesebuch. D. C. Heath and Company, Chicago
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Second Year Reading

Arnold, Fritz auf Ferien. Ginn and Company, Chicago
Bernhardt, Kleine Geschichten. D. C. Heath and Company, Chicago
Bluthgen, Das Peterle von Nürnberg. D. C. Heath and Company, Chicago
Bonsel, Die Biene Maja. D. C. Heath and Company, Chicago
Campe, Robinson der Jüngere. D. C. Heath and Company, Chicago
Hatfield, German Lyrics and Ballads (selections from). D. C. Heath and Company, Chicago
Heyse, L'Arrabbata. D. C. Heath and Company, Chicago
Hillern, Höher als die Kirche. D. C. Heath and Company, Chicago
Holzwarth, Gruss aus Deutschland. D. C. Heath and Company, Chicago
Merkley, Grimm's Märchen. Allyn and Bacon, San Francisco
Moser, Der Bibliothekar. D. C. Heath and Company, Chicago
Rendtorff, Drei Märchenspiele. D. C. Heath and Company, Chicago
Storm, Immensee. D. C. Heath and Company, Chicago
Storm, In St. Jürgen. D. C. Heath and Company, Chicago
Stroebe, Deutsche Anekdoten. D. C. Heath and Company, Chicago
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Bagster and Collins, First Book in German. The Macmillan Company, San Francisco

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Crandon, Ein Anfangsbuch. World Book Company, Chicago
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Huebsh and Smith, Progressive Lessons in German I and II. D. C. Heath and Company, Chicago
Manfred, Ein Praktischer Anfang. D. C. Heath and Company, Chicago
Meisnest and Fischer, Elementary German. The Macmillan Company, San Francisco
Mosher and Jenny, Learn und Lesebuch. D. C. Heath and Company, Chicago
Schmidt and Glokke, Deutsche Stunden. D. C. Heath and Company, Chicago
Zinnecker, Deutsch für Anfänger. D. C. Heath and Company, Chicago

D. Tests

American Council Alpha German Test. World Book Company, Chicago
Columbia Research Bureau German Test. World Book Company, Chicago
Prognosis Tests in the Modern Foreign Languages. The Macmillan Company, San Francisco

Exercise Books and Verb Blanks

German Verb Form. American Book Company, Chicago
Das Deutsche Heft (Erstes Jahr). American Book Company, Chicago

E. Periodicals

Berliner Illustrirte Zeitung, Berlin, Germany
Das Deutsche Echo. B. Westerman, Inc., 13 West 46th Street, New York
Deutsche Herold, New York
Fliegende Blätter, München, Germany
Die Gartenlaube, Leipzig, Germany
Die New Yorker Staatszeitung, New York
Die Woche. August Scherl, Berlin, Germany

Any of the above German periodicals may be purchased or subscribed to through Brentano's, Booksellers to the World, Chicago

PART FIVE—LATIN

I. Introductory Statement

Much has been written and more has been said during the last few years with regard to the place to which Latin is entitled in the high school curriculum. Despite the controversy, however, the fact is that a considerable number of our boys and girls are pursuing the study of Latin for five days a week during two years of their high school life. In view of this situation it should be the chief concern of the Latin teacher to so present her subject that "Latin will be its own excuse for being" and that her pupils will acquire, while under her supervision, those abilities which will continue to function after the formal study of Latin has ceased; for example, the ability to understand the English language more fully and to use it more effectively, and the ability to appreciate and enjoy the historical and cultural background which a knowledge of Roman history, art, religion, family life, customs, and institutions will afford.

Latin can and should be taught in such a way that every boy or girl who studies it even for a single semester will gain something of value; that those pupils who take Latin for the purpose of meeting a language requirement for college will not have wasted their time, if circumstances are such that they never use the credit so gained for college entrance; that those who take Latin because their parents, teachers, or friends urge them to do so will not be cheated; that those boys and girls, who take Latin because they believe that for them this study will have some of the elements of a "joyous adventure" and that it will show them some of the "wonder that was Greece and the glory that was Rome", will not be disappointed.

In the report of the sub-committee on Latin of the North Central Association we find: "Latin can be made to have direct bearing on an important division of one of the main educational aims as set forth by the North Central Association; namely, acquiring the means of social communication. Society depends on language as its main means of intercourse. It is the 'tool of understanding'. Any study that gives a greater command of the mother tongue should have an important place in the high school curriculum." This committee further states that if the materials used in a Latin course are properly selected and presented, they will also contribute indirectly to some of the other divisions of the social objective, the leisure-time objective, and the vocational objective.

The Latin teacher must never forget that the study of Latin will not **automatically** develop increased ability to use English correctly. She must select such materials and adopt such a method of presentation as will make a direct contribution to the increased understanding of English grammar and to the enrichment of English vocabulary, both by the addition of new words, and particularly, by a more perfect mastery and a clearer understanding of many of the words already in use. To quote Dr. Mason D. Gray, "The values inherent in Latin can be realized only by means of lessons developed expressly to promote their realization and by making these aims the conscious and deliberate purpose of every recitation and of every assigned lesson."

II. Aims

The first step in the teaching of Latin, as in the teaching of any other subject, is a clear understanding on the part of the teacher of the legitimate aims of the study. The Latin teacher must take into consideration not only the immediate aims which she desires to attain, but also those ultimate aims the realization of which will enable her pupils to enjoy the benefits to be derived from a knowledge of Latin long after the formal study of the subject has ceased. It should always be remembered that a reasonable degree of mastery of the subject matter involved in the immediate aims is essential to the realization of the more general ultimate aims.

In accord with the recommendations of the classical investigation and of the newer texts. which are the outgrowth of that investigation, the following immediate and ultimate aims in the teaching of Latin in Montana high schools are suggested:

A. Immediate aims

1. "The ability to read and understand simple "Latin as Latin". (The Report on Latin of the Sub-Committee of the North-Central Association.)
2. The ability to pronounce Latin words correctly and to read connected Latin with a proper regard for grouping and phrasing
3. A mastery of those grammatical principles which are essential to a comprehension of the Latin language, and particularly, of those principles which will clarify the student's understanding of English grammar
4. A basic knowledge of inflections
5. The acquiring of a working vocabulary
6. "An increased knowledge of the facts relating to the life, history, mythology, and religion of the Romans, and of the influence of their civilization on the course of Western civilization." (The Classical Investigation.)

B. Ultimate aims

1. The ability to understand Latin quotations, references to Roman history and Roman mythology, and Latin words which are commonly met with in books and periodicals
2. The enrichment of the pupil's English vocabulary by enabling him to understand more or less uncommon words of Latin origin, and, more especially, by making it possible for him to have a clearer and fuller comprehension of the exact meaning of common words derived from the Latin
3. Improvement in the pupil's ability to spell, write, and use the English language correctly
4. "The development of ideals of patriotism, courage. honor, and devotion to duty through a familiarity with the stories of Roman history." (The Classical Investigation.)
5. The enlargement of the pupil's intellectual viewpoint and a widening of his sympathies through familiarity with both the public and the private life of a great people far removed from us in time and place

III. Attainments

One unit of credit should be allowed for each year's work in Latin. No credit should be given for less than one full year of study. In section five, under CONTENT, page 162, an outline is given of the material which should be covered in each semester of a two-year course. The amount and nature of the work to be covered each semester will, of course, vary, depending on the textbook used. In general, however, the teacher who uses one of the newer texts which conforms to the recommendations of the classical investigation will find that she is presenting such subject matter as is suggested in section five. It is recommended that all pupils who take Latin at all be urged to complete the two full years of work, as many colleges and universities will not grant entrance credit for less than two years of a foreign language.

IV. Procedure

If the Latin teacher is to realize her immediate and ultimate aims it is necessary, above all else, that her pupils be kept interested, alert, responsive. High school boys and girls like to feel that they are actually accomplishing something and that the tasks they are performing under the teacher's direction will really be of some practical value to them. The Latin teacher can do nothing of greater value in the first week or two of the study than "sell" her subject to her pupils. All of the newer texts contain many excellent suggestions for accomplishing this purpose. First of all, really show the pupils how Latin may be connected up with their everyday experiences. Give them some idea of how much Latin they are unconsciously using every day of their lives. By means of a few common words, such as **separate** and **laboratory**, show them how a knowledge of Latin will enable them to spell correctly. Select a story from a current magazine and call the attention of the boys and girls to the Latin words, quotations, and references which it contains. During these first two weeks take time to give the pupils some interesting glimpses of the private life of the ancient Romans, and assure them that this sort of thing will be a part of their study throughout the term. Boys and girls always enjoy seeing one of their number dressed in a toga or a stola, and the teacher who gives her pupils a clear idea of how the Romans dressed, or of what they ate and how and when they ate it, will be sure to arouse their interest in the people whose language they are studying.

In the conduct of the daily Latin lesson it must always be remembered that a mastery of basic principles, forms, and vocabulary is absolutely essential to success in learning the language; but it should also be remembered that pupils learn more easily what they enjoy learning; and advantage should be taken of every possible device for making the classroom a pleasant place. Enliven the drill work with daily glimpses of interesting things about the Romans—their amusements, their business affairs, their homes, and their ideals.

It is hard for boys and girls to read and understand Latin as Latin, and in order that they may progress satisfactorily in this most important phase of their work and not become discouraged or disgruntled, it is well for the teacher to go over at least a part of each reading lesson with the pupils before they try to read it themselves.

Nothing is more important in the teaching of Latin than the matter of the assignment. It should never be made hurriedly or vaguely. Be sure your pupils know exactly what they are to prepare for the next day's lesson, and help them a little with new or particularly difficult things which the lesson may contain. "Nothing succeeds like success." Be sure your assignments are definite and clear enough to make it possible for your boys and girls to have a reasonable degree of success each day.

It is urged that those phases of Latin study which will create for the pupil a desirable cultural and historical background be not overlooked or neglected. If the teacher finds it hard to devote as much class time as she would like to this part of the work, it is suggested that she make use of a Latin club as a means of bringing before her pupils those things which will make them familiar with the characteristics, activities, and ideals of a people who have had a tremendous influence upon the civilization of the world. She will find that there is an almost unlimited supply of material available for such a project and that a club of this kind, if carefully sponsored, will appreciably increase the interest in Latin in her school.

V. Content

The suggestions offered in this section are taken for the most part from the report of the sub-committee on Latin of the North Central Association, the chairman of which was Miss Olivia Pound of Lincoln, Nebraska. The standards set up in this report are directly in line with the recommendations of the classical investigation.

First Semester

A. Knowledge necessary for progress in learning the language

1. **Ability to read and understand simple Latin as Latin**
2. **Ability to pronounce Latin with regard for grouping and phrasing**
3. **Mastery of vocabulary (200-250 words)**
   a. Words most frequently used in Latin
   b. Words whose derivatives are most common in English
   c. Words necessary for progress in learning the language
4. **Knowledge of inflections**
   a. Nouns of the first and second declensions
   b. Adjectives of the first and second declensions
   c. Formation of adverbs from adjectives of the first and second declensions
   d. Pronouns
   e. Verbs
      (1) Indicative of **sum** (except the future perfect)
      (2) Indicative active and passive of first and second conjugations (except the future perfect)
      (3) Imperative
      (4) Infinitives of the first and second conjugation
      (5) Principal parts of selected verbs of the first and second conjugations

(In this study of inflections, Latin can be tied up with English. Many of the common nouns of the first and second declensions are brought over into English—**arena, aurora, circus, campus.** When pronouns are studied such words as **quorum** and such abbreviations as **i.e., id est,** may be explained. The imperative may be illustrated by **N. B.—nota bene.** Some Latin verb forms have become perfectly good English words—**habitat, tenet, ignoramus, veto.)**

5. **Knowledge of syntax**
   a. Agreement
      (1) Verb and subject
      (2) Adjective with noun
      (3) Appositive with noun or pronoun
      (4) Predicate noun or adjective with subject
   b. Case uses
      (1) Nominative as subject
      (2) Genitive of possession
      (3) Dative of indirect object
      (4) Accusative of direct object
      (5) Accusative governed by prepositions
      (6) Vocative
      (7) Ablative of means

(8) Ablative governed by **ab, de, ex, cum, in**

6. Knowledge of Latin prefixes (**a, ad, cum, de, ex, in, non**) as a part of English words
7. Ability to correlate Latin with English spelling. Separate has a instead of **e** in the second syllable because it is from separo, etc.
8. Ability to interpret English words by recognizing their Latin origin
9. Knowledge of common abbreviations and Latin expressions
10. Knowledge of Graeco-Roman mythology
11. Knowledge of Roman history, characters, movements, customs, and institutions which have influenced the progress of mankind
12. Knowledge of the arts, customs, manners, and occupations of the Romans
    (This should include among other things the study of Roman houses, the dress and food of the Romans, Roman amusements, etc.)

B. Content to be used for the development of attitudes, interests, ideals, motives, appreciations

1. Study of the history of words: A pagan was originally one who lived in the country—pagus. The people who lived outside of towns and cities were slow to adopt Christianity; hence the word pagan came to mean a person who was not a Christian. Innumerable Latin words have such interesting histories.
2. Study of the meaning of names: A Roman name indicated some personal characteristic. Many given names of Roman origin are in use today.
3. Ideals: Such Roman characteristics as courage, patriotism, and adherence to duty should be noted and discussed frequently
4. Appreciation of the classical element in good literature: Illustrations should be drawn from current literature as well as from the classics. Popular current magazines contain much Latin and many allusions to Latin.

C. Acquiring right habits and useful skills

1. The habit of weighing synonyms, of discriminating between words
2. Increased understanding of English grammar
3. "The habit of looking at words squarely in order to observe their component parts, of observing their endings and their relation to other words affords increasing accuracy and precision in their use."

Second Semester

A. Knowledge necessary for progress in learning the language

1. Increasing ability to read Latin as Latin
2. Increased vocabulary (an additional 200-250 words)
3. Increased knowledge of Latin inflections
    a. Nouns of the third declension
    b. Adjectives of the third declension
    c. Formation of adverbs from adjectives of the third declension
    d. Comparison of regular adjectives
    e. Pronouns (qui, hic, ille, ipse)
    f. Verbs

        (1) Indicative of third and fourth conjugations active and passive. (Except the future perfect. This occurs so infrequently that it is unnecessary to burden pupils with it.)
        (2) Imperative of all conjugations present active and passive, second person singular and plural
        (3) Present infinitive active and passive of the third and fourth conjugations
        (4) Perfect passive participles of all conjugations
        (5) Principal parts of selected verbs

4. **Increased knowledge of Latin syntax**
    a. Agreement of pronoun with antecedent
    b. Case uses
        (1) Accusative subject of infinitive
        (2) Accusative of duration and extent
        (3) Ablative of time
        (4) Ablative of cause
    c. Verb uses: Infinitive in indirect discourse
5. Increased knowledge of Latin prefixes
6. Increased ability to correlate Latin with English spelling
7. Increased knowledge of the assistance of Latin in understanding the more unusual English words
8. Increased knowledge of common abbreviations
9. Increased ability to understand Latin phrases, mottoes, and quotations met by the average reader
10. Increased knowledge of Graeco-Roman mythology, frequent references to which are met by the average reader
11. Increased knowledge of Roman history, characters, movements, customs, and institutions, which have influenced the progress of mankind
12. Increased knowledge of the arts, customs, manners, and occupations of the Romans

B. Content to be used in the development of attitudes, interests, motives, ideals, appreciations

1. Further study of the history of words
2. Further study of the meaning of names
3. Study of the characteristic Roman virtues worthy of emulation today
4. Appreciation of the classical allusions and the classical element in good literature

C. Further work in the acquiring of right habits and useful skills

The pupils should be taught to weigh synonyms in translation, and they should be trained to notice quickly and accurately tense signs, personal endings, case endings, and the like.

Third Semester

A. Knowledge necessary to progress in learning the language

1. **Ability to read and understand Latin as Latin**

   Most of the new texts contain an abundance of continuous easy Latin to furnish the translation material for this semester. It is recommended that Caesar's Commentaries should not be taken up until the second semester of the second year.

2. **Vocabulary**
   - a. Words most frequently used in Latin
   - b. Words whose derivatives are most common in English
     The report of the Classical Investigation recommends that about two hundred and fifty words based on the text used be mastered during the first semester
3. **Inflections**
   - a. Nouns of the fourth and fifth declensions
     The pupils' attention should be called to words of these declensions which have become naturalized English words, such as: **status, species, census, series, impromptu**
   - b. Declension of irregular adjectives
   - c. Comparison of regular adjectives
   - d. Verbs
     - (1) Subjunctive of **sum**
     - (2) Subjunctive active and passive of all conjugations
     - (3) Perfect infinitives—active and passive, and future active infinitives of all conjugations
     - (4) Present active and future active participles of all conjugations
     - (5) Gerunds
     - (6) Principal parts of selected verbs
4. Syntax
   - a. Case uses
     - (1) Dative with intransitive verbs
     - (2) Accusative of place to which without a preposition
     - (3) Ablative absolute
     - (4) Ablative of specification
   - b. Verb uses
     - (1) Volitive subjunctive
     - (2) Subjunctive in purpose clauses
     - (3) Subjunctive in result clauses
     - (4) **Cum** clauses
     - (5) Subjunctive in indirect questions
     - (6) Sequence of tenses
     - (7) Complementary infinitive
5. Further study of Latin prefixes and suffixes
6. Further study of the value of Latin as a help in spelling troublesome English words

   English words derived from Latin verbs of the first conjugation usually have **a** before the **n** of the ending **nt**, as **applicant**; those derived from second and third conjugation verbs have **e** before the **nt**; those derived from **io** verbs of the third conjugation and fourth conjugation verbs have **ie** before the **nt**.
7. Continued drill in weighing the significance of English words of Latin origin
8. Continued study of abbreviations
9. Further study of Latin phrases, mottoes, and quotations met by the average reader
10. Further study of Graeco-Roman myths frequently referred to in current literature
11. Continued study of Roman history, characters, movements, customs, and institutions which influenced the progress of mankind
12. Further study of the arts, customs, manners, and occupations of the Romans

    Roman religion, baths, roads, water supply, police, etc.

B. Material for developing attitudes, interests, motives, ideals, appreciations

1. Modern survivals from classical times, such as the circus, the stadium
2. Further study of Roman characteristics which might well be emulated today, such as love of law and order, devotion to family and friends
3. Continued attention to classical allusions in literature

C. Further work in the acquiring of right habits and useful skills

Attention should be given to careful discrimination between the shades of meaning in selecting the best word in translation work, and to the arrangement of words, phrases, and clauses so that an effective, well-organized English sentence will result. Pupils should not be allowed to "butcher" the English language in their translations. "Put good Latin into good, fluent English", is a worthy motto for a second-year Latin class.

Fourth Semester

A. Knowledge necessary to progress in learning the language

1. **Ability to read and understand increasingly difficult Latin as Latin**

   Not fewer than thirty-five pages of classical Latin should be read during this semester, according to the recommendations found in The Classical Investigation. Caesar's **Commentaries**, simplified to some extent, afford good material for this work, as do also certain other selections from classical Latin. The newer second-year books contain an abundance of appropriate material.
2. **Vocabulary**

   About two hundred and fifty new words based on the text used should be mastered this semester
3. **Inflections**
   a. Indefinite pronouns
   b. Verbs
      (1) Irregular verbs: **possum, eo, fero, volo, nolo, malo**
      (2) Deponent verbs of all conjugations
      (3) Future passive participle (gerundive) of all conjugations. Bulletin 97 of the Service Bureau for Classical Teachers recommends that in teaching the future passive participle use be made of English adjectives and nouns derived from Latin, showing the original form and meaning; e.g., **memorandum, reverend, legend, minuend.**
      (4) Principal parts of selected verbs
   c. Syntax
      (1) Case uses
         (a) Genitive and ablative of description
         (b) Dative of reference
         (c) Dative of purpose
         (d) Dative of possessor
         (e) Dative of agent
         (f) Ablative with deponent verbs
      (2) Verb uses
         (a) Subjunctive in substantive volitive clauses. (Excellent suggestions for teaching this construction

may be found in Bulletin No. 97 of the Service Bureau for Classical Teachers.)
    - (b) Subjunctive in relative clauses of purpose
    - (c) Subjunctive in subordinate clauses in indirect discourse
- d. Continued study of Latin prefixes and suffixes
- e. Further correlation of Latin with English spelling
  As certain Latin words are met, the teacher should point out how a knowledge of these words will help in spelling their English derivatives; **reference** has one **f** and one **r** because it is from **refero**, etc.
- f. Continued correlation of the significance of English words with the meaning of the Latin words from which they came
- g. Continued attention to Latin phrases, mottoes, and quotations, which are common in current literature
- h. Further study of Graeco-Roman mythology, allusions to which are frequently met by the average reader
- i. Further study of the history, arts, customs, manners, and enterprises of the Romans

B. Content useful in the development of attitudes, interests, motives, ideals, and appreciations

1. Pictures of famous Roman ruins
   The pupils may be encouraged to make models of these ruins
2. At every opportune time attention should be called to such Roman characteristics as tireless energy, self-control, efficient service, and endurance
3. Pupils should be given glimpses of the great masterpieces of Roman literature through translations of some of Virgil's **Eclogues** and **Georgics**, and of parts of the **Aeneid**. They will enjoy translating proverbs and humorous quotations from the great Roman writers.

VI. Bibliography

A. Texts

There are many good texts available at the present time. No doubt any of these can be used satisfactorily by the efficient teacher. There are listed here a few of the texts which Montana Latin teachers have used:

Gray and Jenkins, Latin for Today, First-year Course. Ginn and Company, Chicago
Gray and Jenkins, Latin for Today, Second-year Course. Ginn and Company, Chicago
Magoffin and Henry, Latin—First Year. Silver, Burdett and Company, Chicago
Berry and Lee, Latin—Second Year. Silver, Burdett and Company, Chicago
Francois, Victor E., First Latin with Readings. Allyn and Bacon, Chicago
Scudder, Jared W., Second Latin. Allyn and Bacon, Chicago
Ullman and Henry, First Latin Book. The Macmillan Company, San Francisco
Ullman and Henry, Second Latin Book. The Macmillan Company, San Francisco
Scott-Horn, First Latin Lessons. Scott, Foresman and Company, Chicago
Parsons and Little, First Latin Lessons. D. C. Heath and Company, Chicago
Pearson, Lawrence and Raynor, Latin I. American Book Company, Chicago
Pearson and Lawrence, Latin II. American Book Company, Chicago

B. General

Classical Investigation, The. General Report of the Advisory Committee of the American Classical League. Princeton University Press, Princeton, N. J. 1924
Johnston, The Private Life of the Romans. Scott, Foresman and Company, Chicago
Davis, A Day in Old Rome. Allyn and Bacon, Chicago
Fowler, Social Life at Rome. The Macmillan Company, San Francisco

Sabin, The Relation of Latin to Practical Life. Baker and Taylor Company, 55 Fifth Avenue, New York
Sabin, Classical Myths That Live Today. Silver, Burdett and Company, Chicago
Guerber, Myths of Greece and Rome. American Book Company, Chicago
Gayley, Classic Myths, Ginn and Company, Chicago
Haaren and Poland, Famous Men of Rome, American Book Company, Chicago
Guerber, The Story of the Romans. American Book Company, Chicago
Harding, The City of the Seven Hills. Scott, Foresman and Company, Chicago
Tappan, The Story of the Roman People. Houghton Mifflin Company, Boston
Lang, Red Book of Heroes. Longmans, Green and Company, New York

C. Fiction

White, The Unwilling Vestal. E. P. Dutton and Company, New York
Whitehead, The Standard Bearer. American Book Company, Chicago
Davis, A Friend of Caesar. The Macmillan Company, San Francisco
Davis, The Beauty of the Purple. The Macmillan Company, San Francisco
Wells, Lucius, a Roman Boy. Dodd, Mead and Company, New York
Wells, On Land and Sea with Caesar. Lothrop, Lee and Shepard, Boston
Bulwer-Lytton, The Last Days of Pompeii. The Macmillan Company, San Francisco
Wallace, Ben Hur. Harper and Brothers, New York
White, Andivius Hedulio. E. P. Dutton and Company, New York

D. Tests

Tyler-Pressey Test in Latin Verb Forms. Public School Publishing Company, Bloomington, Illinois
Godsey Diagnostic Latin Composition Test. World Book Company, Yonkers-on-the-Hudson, New York
White Latin Test. World Book Company, Yonkers-on-the-Hudson, New York
Powers Diagnostic Latin Test. Public School Publishing Company, Bloomington, Illinois
Orleans-Solomon Prognosis Test. World Book Company, Yonkers-on-the-Hudson, New York
Ullman-Kirby Latin Comprehension Test. Extension Department, University of Iowa, Iowa City, Iowa
Clark-Ullman Classical Reference Test. The Macmillan Company, San Francisco

Ginn and Company, Chicago, publish a set of prognostic tests prepared by F. Niles Bacon to accompany **Latin for Today**—First-Year Course by Gray and Jenkins. The set consists of nine different tests to be administered at the rate of about one every four weeks during the school year.

Good objective tests for both first- and second-year work may be obtained from the Department of Educational Measurements, Kansas State Teachers' College, Emporia, Kansas.

COURSE OF STUDY

State of Montana

HIGH SCHOOL
MATHEMATICS

Elizabeth Ireland
State Superintendent of Public Instruction
Helena
1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Algebra, Plane and Solid Geometry, Plane Trigonometry, and General Mathematics is being offered as a tentative program for the field of mathematics in the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and Teachers of Mathematics send from time to time, as this course is used, suggestions for its improvement.

Grateful acknowledgment is made to Montana Educators and to the Mathematics Committee, in particular, for their kindly cooperation with the State Department of Public Instruction in formulating the subject matter contained herein. Valuable assistance was obtained from courses of study from other states and from new texts furnished by Publishing Companies.

Special acknowledgment is given to William A. Chittick, Assistant High School Supervisor, who was in direct charge of curriculum construction for the secondary schools. Invaluable assistance was rendered by Alice A. Mattison and Ellen Nelson Colleran of the State Department of Public Instruction in putting the material in shape for the printer and in reading and correcting proof.

ELIZABETH IRELAND,
Superintendent of Public Instruction.

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Margaret McLay, High School, Baker — General Introduction, in part

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COURSE OF STUDY IN HIGH SCHOOL MATHEMATICS

PART ONE—GENERAL SUGGESTIONS

I. General Statement

The challenge to the school today is that it should furnish an education suited to the needs of a changing civilization. During the last half century there has appeared a super-industrial civilization—machine made, machine served, and almost machine dominated. The machine is the product of science and mechanics, and mathematics is the indispensable servant of both; hence today, more than ever before, the schools should furnish a comprehensive course in the field of mathematics. Moreover, care should be taken to select a text which eliminates outgrown topics and to enrich the courses by suggesting modern and practical methods of instruction.

It is worth while emphasizing the fact, however, that high school mathematics does not hold the same values for all students. The need of mathematical knowledge of this level is well summarized in the following statement taken from a report of the Committee on the Problem of Mathematics in Secondary Education, 1923. This report distinguishes four groups of users of mathematics:

> "1. **The General Readers**—Who will find their use of mathematics beyond arithmetic confined largely to the 'interpretative' function; i.e., to a knowledge of mathematical language and concepts which would further their thinking in connection with ordinary experiences or general reading. This is sometimes called the 'cultural' use of mathematics. The 'practical' needs of this group will be confined largely to ordinary arithmetic and mensuration. For practical purposes and for general reading, they will need to know: How to interpret and evaluate a simple literal formula; the meaning and use of an algebraic equation of one unknown; the notion and use of negative numbers in such simple cases as temperature, latitude, and stock fluctuations; the simpler conceptions of space relations (inductively obtained); the notion of function; the graph as a means of interpreting statistical information and such terms as 'average' and 'median'. It is evident, of course, that this group includes the others that follow.
>
> "2. **The Trade Group**—Those whose work in certain trades will make limited, but still specific, demand for the 'practical' use of mathematics; e.g., in the use of the formula, simple equations, measurement of angles, areas and volumes, square root, making and reading of graphs, solution of right triangles, and geometry of the circle, with such practice as is necessary to make this amount of mathematics function adequately.

"3. **The Pre-Engineering Group**—Those whose practical work as engineers or as students of certain sciences requires considerable knowledge of mathematics. After the introductory course, the specific needs of this group will be determined by the demands of their future work.

"4. **The Specializers**—Those who specialize in the study of mathematics with a view either to research or to teaching, or to the mere satisfaction of an extended study of the subject. The members of this group have both vocational and avocational interests. Ordinarily their needs can be met by working with the preceding groups in the ninth and tenth grades. Where conditions warrant, additional elective courses may be offered for these people in the eleventh and twelfth grades, covering the work of mathematics through analytics and calculus."

The consideration of the above needs and other circumstances concerning the administration of high school mathematics courses in Montana has led the Committee to offer the following general statements which may be of assistance in determining the place and emphasis due mathematics in the high school curriculum:

A. Every school should arrange its program of studies so that students in any course may elect at least one year of mathematics

B. A reasonable provision for individual differences, based on the needs and abilities of the students, should be made in the high school mathematics courses

C. One unit of elementary algebra, one unit of plane geometry, one-half unit of intermediate algebra and one-half unit of solid geometry constitute the necessary high school program to prepare students for ordinary life pursuits and to satisfy all college entrance requirements. A special demand undoubtedly justifies a few schools in adding other mathematical courses, but any student may secure such courses after entering college.

D. In recognition of the fact that high school mathematics courses have traditionally been organized so as to keep each subject separate from the others, an effort should be made to correlate the different courses and insure the general progress of the student with each succeeding mathematics course pursued.

II. General Aims

A. To develop in the student such habits and abilities of a mathematical nature as will be of value to him in ordinary life pursuits

B. To provide the student with a knowledge of the fundamental principles of mathematics which will help him to a better understanding of our modern industrial life

C. To give the student an introductory knowledge of the principal branches of mathematics which will serve as a basis for more advanced study

D. To develop an appreciation of the value and beauty of mathematics and the part it has played in developing our modern civilization

E. To stimulate and make habitual, thinking which is careful, accurate and independent

III. Administrative Problems

A. Number of units offered

1. General statement

This course of study in mathematics has been prepared to meet conditions in Montana schools. It includes: first, an outline providing the traditional type of mathematics; algebra, usually given in the ninth grade; plane geometry, usually given in the tenth grade; solid geometry (one-half unit) and intermediate algebra (one-half unit), given in either the third or fourth years; and a course in trigonometry (one-half unit), usually given after the completion of the afore-mentioned courses; secondly, an outline providing for a three-year course of general mathematics. But even though this outline provides for three or three and one-half years of work, the mistaken impression must not gain ground that mathematics is absolutely required for graduation.

2. Recommendations of State Board of Education

Even though a credit in mathematics is not a standard required by the State Board of Education for graduation from Montana high schools, the Board does deem it wise that students take some mathematics. If a student has tried to carry the work in one or more courses of mathematics and it has been shown quite definitely that he does not have a mathematical sense at all, he should not be kept from graduating because of his failure to present one or more units of credit in mathematics. Students with little or no mathematical sense **may graduate from high school without one unit of credit in mathematics.** However, as stated before, for a more balanced program, the State Board does recommend that one or more credits in mathematics be offered for graduation by most students. This is for the student's own protection; if at some future time the student wishes to attend college or wishes to go into some vocational work requiring a knowledge of mathematics, he will have been prepared even though he may have deemed his need for mathematics quite non-existent.

3. College entrance requirements

Perhaps the erroneous notion that one or more units in mathematics is an absolute requirement for graduation has become prevalent, due to confusion in the requirements for graduation set by the State Board of Education with college entrance requirements set by University authorities. These requirements are:

> "Students entering after September 1, 1927, must offer three units of English, one of American history and government and at least two other units from each of three of the following groups: (a) mathematics: algebra, plane and solid geometry, trigonometry, general mathematics; (b) history and social science: Greek, Roman, medieval, modern or English history, civics, community civics, economics, sociology, citizenship, economic or industrial history; (c) laboratory science: physics, chemistry, botany, zoology, biology, physiology, agriculture, astronomy, geology, physiography, general science; (d) foreign languages." (From the University of Montana Bulletin, May, 1931.)

4. **Requirements set by local trustees**

   The local boards of trustees may insofar as they do not conflict with the rules and regulations promulgated by the State Board of Education make such rules and regulations as they may deem proper governing the qualifications for graduation.

   Taking into consideration the information of the above paragraph, local boards have made and do make the requirement of one or two units of credit in mathematics for graduation.

B. Qualifications and training for teachers of mathematics

While the standards of accrediting set up by the State Board of Education require that teachers of high school subjects be graduates, or the equivalent, of fully accredited four-year colleges or universities, and that the practice of teachers being assigned to teach subjects outside their major fields of preparation be discouraged, the State Department of Public Instruction recommends that a teacher of mathematics in secondary schools should have as a minimum preparation the following prerequisites:

1. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in mathematics. In his college work the teacher should at least have mastered college algebra, trigonometry, analytic geometry, and calculus.
2. Some training in the history and teaching of secondary mathematics, and in physics, mechanics or some other field of applied mathematics
3. Ability to adapt materials and methods to the varying needs of pupils. To do this, the teacher must know his subject thoroughly.
4. Ability to choose and organize mathematics material from any good text in mathematics. A teacher of mathematics should not be dependent on one textbook.
5. Professional contacts with organizations and movements looking toward reform and improvements in the teaching of mathematics. Especially, is it assumed that a teacher of mathematics will become familiar with standard practice material and with standard tests in high school mathematics subjects, and that he will use both types of material in classroom practice.
6. A wide-awake alertness to every opportunity for improvement in the work
7. A sympathetic understanding of the high school student's difficulties in the mathematics field

IV. Procedure

A. Emphasize clear thinking, accurate expression, and careful workmanship. Absolute accuracy is important; require students to check and recheck their work.

B. Adapt the work to the ability of the students by elastic assignments. In a set of problems or exercises designate a minimum assignment for everybody and additional assignments for those who wish to do more.

C. In a school where there is more than one division of the same mathematics class, it is a good plan to group the students on the basis of ability. If this plan is used, the work can be more readily adapted to the needs of the students. Care should be taken that students who are merely lazy or troublesome do not always find a place in the slow group.

D. Do not take more time than is necessary to review the lesson the students have prepared and to test their knowledge of it. Plan this work in such a way that it can be handled promptly and efficiently. Spend a large share of the class time in developing new principles involved in the next assignment and in stimulating the mathematical interests of the students in various ways.

E. Competition between groups or individuals for speed, accuracy, and good form in mathematics work will improve the standard of the work

F. Be sure your students have sufficient drill and enough reviews to insure the mastery of the principles studied. Remember the old saying, "The more haste the less speed".

G. If experts in the various fields of mathematics can be secured to give talks to the class it will help to motivate the work

IV. Bibliography

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C. Magazines

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PART TWO—ELEMENTARY ALGEBRA

I. Aims

It is safe to say that most of the high school pupils in Montana receive one year of instruction in elementary algebra. Since this is the case, the course should be planned to give the greatest possible amount of practical knowledge to the pupils whose education will not include further mathematical study as well as to care for the needs of those who may enter college. The general aims of instruction in elementary algebra have already been suggested in the statement of aims for instruction in secondary school mathematics, given in the introduction to this section. The special aims have been summed up in the following statements:

Special aims

A. To teach pupils to think numbers and number relations by the use of letters and other conventional symbols
B. To develop in the pupil the power to form and manipulate formulas
C. To enlarge the pupil's number system to include (1) literal numbers, (2) negative numbers, and (3) irrational numbers
D. To teach the pupils to solve problems by means of equations
E. To teach the pupils to apply the four fundamental processes of arithmetic to algebraic terms and symbols
F. To represent in graphic form the relation of quantities
G. To give the pupil a clear understanding of the meaning of mathematical function
H. To enlarge the pupil's vocabulary to include the terminology of algebra
I. To emphasize the importance of checking results
J. To teach the pupils how to study mathematics

II. Attainments

The completion of the year's work in elementary algebra entitles the student to one unit of credit

III. Content

The following outline is suggestive only. Local conditions, varying abilities of classes, and other factors will call forth the skill of the teacher in adjusting the subject matter to the pupil's needs.

A. Literal notation—the formula

1. The formula as a shorthand for arithmetic rules
2. Evaluation of formulas and expressions containing letters, exponents, parentheses, factors and decimal fractions such as: $A = \frac{1}{2} bh$, $S = \frac{1}{2} gt^2$, $P = 2(L + W)$, $P = \frac{d^2n}{.5}$
3. The formula as the expression of the dependence of one variable upon another
4. Linear relationships expressed graphically

For maximum assignments

1. Derivation of formulas from tables
2. Practice with more complicated formulas from physics
3. Projects on areas of triangles and rectangles

This section contains the foundation of higher mathematical work and should be taught with this in mind. Nothing short of mastery of these fundamentals should be acceptable to the earnest mathematics teacher. As much time should be spent on this unit as is needed.

B. Statistics and graphical representation

1. Construction of graphs representing statistical data
2. Solution of simple problems graphically
3. Graphical representation of dependence
4. Familiarity with various types—bar, circle, straight line, smooth and broken line graphs

For maximum assignments

1. Graphical representation of material collected from magazines, almanacs, etc.
2. Comparison of attendance, grades, etc.

The graph affords an excellent opportunity for the study of functionality. It should be used frequently to illustrate the dependence of one variable upon another and the effect which a change in one produces in the other. Pupils should be familiar with the common terms and notations used in connection with graphs.

C. Positive and negative numbers

1. Introduction to negative numbers through gain and loss, temperature, and direction
2. Positive and negative values represented graphically
3. Four fundamental operations applied to negative numbers
4. Justification of laws governing the use of signs
5. Solution and checking of problems involving negative numbers

For maximum assignments

1. Use of negative exponents

A thorough understanding of this section is essential to progress in algebra. Consequently, enough time should be taken to insure thorough mastery. Countless illustrations may be used in introducing this subject; such as, the thermometer with below and above zero readings designated as positive and negative values; B. C. and A. D. dates, or dates before or after the birth of the pupils themselves; and debits and credits may be used to advantage.

D. Polynomials

1. Application of the four fundamental operations to polynomials
2. Long division of a polynomial by a binomial

For maximum assignments

1. Long division of a polynomial by a trinomial
2. Multiplication of trinomial by trinomial

E. Factoring

1. Common factors of the terms of a polynomial
2. Difference of two squares
3. Trinomials of the second degree which can be easily factored by trial

For maximum assignments

1. Shortcuts in the multiplication of arithmetic numbers such as: $28 \times 32 = (30-2)\ (30+2)$
2. Recognition of problems such as: $(X-Y)^3$ and (X^3-Y^3)

A large number of simple problems will be more effective in teaching this unit than a smaller number of difficult ones. A variety of problems coming within the understanding of the pupils and related as far as possible to their everyday experience will help to maintain interest.

F. Fractions—ratio and proportion

1. Review of arithmetic fractions
2. Reducing fractions such as: $\frac{24X^3}{18X^2}$, $\frac{X^2-25}{3X-15}$
3. Adding and subtracting fractions with numerical denominators
4. Multiplication and division of fractions no more complicated than:

$$\frac{a^2-9}{3a} \cdot \frac{6a^2}{2a^2+6}\ ;\ \frac{63x^2}{16ax} \div \frac{45x}{48a^2}$$

For maximum assignments

1. Evaluation of formulas and expressions having fractions for given values of the letters

Stress should be laid upon the complete mastery of the fundamental operations rather than upon the solution of involved and difficult problems. The fraction as a ratio should be taught in this unit. The idea of function or of the relation of two quantities that change together can be given in simple form in the treatment of ratio and proportion.

G. Verbal problems solved by linear equations

1. Solution of problems of rate of speed, interest, coins, ages, etc., such as are found in most texts
2. Importance of proper method of attack
3. Checking by judgment of reasonableness as well as seeing if values satisfy the conditions of problem

For maximum assignments

1. Making of original problems concerning local conditions

Teaching pupils a proper method of attack to be applied to all types of problems is more essential than the solution of a great number of problems. A great amount of individual instruction is necessary on this particular type of problem.

H. Simultaneous equations

1. Solution by the graphic method
2. Solution by addition-subtraction or elimination method

For maximum assignments

1. Solution by substitution method

Problems should not contain more than two unknowns except for maximum assignments. Equations with the unknown in the denominator should in general be used only for exceptional classes.

I. Square root radicals

1. Square root of arithmetic numbers
2. Use of square root table
3. Consideration of radicals of the following types:
   $\sqrt{a^2b} = a\sqrt{b}$, $\sqrt{a/b} = 1/b\sqrt{ab}$, $\sqrt{a/b} = \frac{\sqrt{a}}{\sqrt{b}}$
4. Solution of problems of the following types:
   $2x^2=50$, $\frac{1}{4}x^2=4$
5. Problems involving the hypotenuse rule

For maximum assignments

1. Quadratic surds
2. Additional and more difficult problems involving the hypotenuse rule

J. Quadratics

1. Solution by the graphic method
2. Solution by completing the square
3. Factoring method
4. Solution of verbal problems involving quadratic equations

For maximum assignments

1. Solution by use of the formula
2. More difficult problems from physics

PART THREE—INTERMEDIATE ALGEBRA

I. Aims

A. To strengthen the student's knowledge of first-year algebra

B. To lay the foundation for later work in mathematics, science, and engineering

C. To increase knowledge of mathematical concepts with special emphasis on functions

II. Attainments

The course in intermediate algebra which is usually given in the third or fourth year of high school, that is, after the completion of plane geometry, should preferably be open only to those students who have done at least average or better than average work in elementary algebra. The completion of the course in intermediate algebra entitles the student to one-half unit of credit.

III. Content

A. General review

Enough time should be devoted to the review so that the students will have a thorough grounding in the fundamentals of algebra

B. Factoring

1. Review of the type forms of elementary algebra
2. The difference of two squares extended to include

   $a^2+b^2-c^2-d-2ab+2cd$ and $a^4+a^2b^2+b^4$

3. Factoring of the forms a^n-b^n when n has any positive integral value, and a^n+b^n when n is a multiple of any positive odd integer
4. Polynomials factored by grouping, as, $mr-3nr-3ns+ms$
5. Factoring of polynomials of higher degree by the factor theorem. In testing for the various factors, use the remainder theorem and synthetic division.

C. Fractions

Review, using monomial denominators, binomials, and trinomials, as well as fractional numerators and denominators. Complex fractions of this kind are to be treated as cases in division.

D. Linear equations

1. Systems in two and three unknowns
2. Problems involving their use
3. Solution of fractional equations

E. Exponents

1. This topic should be handled with a view to its basic importance in understanding logarithms
2. Should include literal, fractional, negative, and zero exponents

F. Radicals

1. Should include the rationalization of the denominator of a fraction, this denominator being a monomial root or a binomial quadratic surd
2. Should include the solution of simple formulas and equations in which the unknown is under the square root sign
3. Pupils should know the meaning of imaginary numbers, and should be able to recognize them and to express them in terms of the imaginary unit

G. Quadratics

1. Solution of the type $ax^2=c$
2. Solution of equations of the type $ax^2+bx+c=0$ by factoring, by completing the square, by formula, and by graphing

H. Theory of quadratic equations

1. Relation between the roots and the coefficients
2. Formation of an equation from two given roots
3. Nature of the roots

I. Simultaneous quadratic equations

1. Homogeneous equations where one or both are homogeneous except for the constant term
2. Symmetric equations, one of which may be of the third or fourth degree, readily solvable by quadratics
3. The roots should be arranged in pairs. The class should try to obtain all solutions.
4. Problems involving these types

J. Logarithms

1. Explanation of the fundamental laws of logarithms as follows:

   $\log ab = \log a + \log b$
   $\log a/b = \log a - \log b$
   $\log a^p = p \log a.$
   $\log \sqrt[r]{a} = 1/r \log a$

2. Computation by means of logarithms. Interpolation to be included.

K. Graphs

1. Draw graphs of the various types of quadratics as

   $x^2+y^2=25;\ 4x^2+9y=25;\ 4x^2-y^2=25;\ y=x^2$

L. Progressions

1. Given three elements in either arithmetic or geometric progressions: find the remaining elements
2. Deduction and application of fundamental formulas:

$$l=a+(n-1)d \qquad S=\frac{n(a+l)}{2}$$

$$l=ar^{n-1} \qquad S=\frac{a-ar^n}{1-r} \qquad S=\frac{a-rl}{1-r}$$

M. Binomial theorem

1. Expansion of $(a+b)^n$ (without proof) for positive, integral values of n
2. Teach the finding of the rth term of $(a+b)^n$

(Where the term is shortened, the subjects of progressions and the binomial theorem might be omitted if necessary.)

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A. General

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PART FOUR—PLANE GEOMETRY

I. Introductory Statement

In the preparation of this course of study in plane geometry, two main purposes were kept in mind; first, to include the proper content; and second, to take advantage of the latest and best methods of presentation. Perhaps the best guide for establishing the content of plane geometry is given in the Report of the National Committee on Mathematical Reuirements, Chapter VI. (1923). This committee gives a minimum list of 105 propositions which consist of 48 fundamental theorems, 23 constructions, and a subsidiary list of 34 theorems. This list is almost identical with the one used by the College Entrance Examination Board. These lists have been followed closely in outlining this course.

II. Aims

A. To teach the use of geometric principles in measuring and to show the possibilities of their application to practical problems

B. To give training in logical thinking and exact statement

C. To arouse an appreciation of geometry as used in art and observed in nature

D. To lay the foundation for further mathematical study

III. Attainments

For the completion of the year's work the student is entitled to one unit of credit.

The subject matter indicated in the outline of content should give the instructor a rather definite idea of what his students should accomplish in a year's work in plane geometry. In addition to specific attainments defined in terms of subject matter, some general phases of development should be recognized and sought for. Those which the instructor should constantly keep in mind are:

A. Power

1. The acquisition of many facts pertaining to mensuration
2. The development of the ability to combine known facts to find the unknown

B. Attitudes

The student should gain such attitudes as will lead him to desire

1. To continue his mathematical studies
2. To make new discoveries for himself
3. To take new interest in mathematical discussions

C. Appreciations

The student should learn to

1. Appreciate geometric knowledge as applied to engineering, especially with reference to the triangle as the "unit of rigidity"
2. Understand how geometry is used in textile designing, tiling, architecture, and landscape gardening
3. Appreciate geometry in nature

D. Understanding

1. Derivation of formulae, transformation of equations, and of their use in practical situations
2. Principles of algebra and trigonometry as related to geometry

E. Habits

The following quoted from the Washington State Course of Study is pertinent: "Character can be developed only through the fostering of good active habits. Teachers of mathematics should therefore take advantage of all opportunities to develop in the students habits of accuracy, perseverance, orderliness, forethought, self-reliance, and honesty."

F. Skills

The student should learn to

1. Be exact and concise in speech
2. Use instruments of geometry in necessary constructions

IV. Procedure

A. Time schedule

One authority states, "There are schools that finish the whole of plane geometry in six months and are proud of the fact." The subject of plane geometry does not lend itself to speeding, as experienced teachers well know. Time for assimilation by means of vivid and forceful application, with frequent review, must be taken. If students can be helped to digest the subject matter, to see applications of the principles in many situations outside the text, they are more likely to be successful in their class work, and to find satisfaction in the study of geometry. To eliminate as far as possible the danger of a hurried and superficial presentation, the course has been divided into a schedule extending over a period of nine months. It is hoped that this suggested arrangement will serve as a guide to the beginning teacher.

B. Approach

Without doubt the best approach to demonstrative geometry is that one which most arouses the student's interests. This may be done best by making him conscious of a need or by stimulating his curiosity. Euclid informed Ptolemy, "There is no royal road to geometry", but there is likely a better approach than the immediate study of proofs. Constructions without proofs may be used to good advantage in introducing the subject of geometry to the class. This work with constructions should not be merely drawing but should include explanations, vocabulary drill, manipulation of ruler and compass, and the acquisition of much knowledge and skill which will be of service to the pupil throughout the course.

C. Special cautions

It is not possible, nor desirable, to attempt to state here exactly how the beginning teacher is to present his work. It may not be amiss, however, to point out a few pitfalls cited by various authorities.

1. Illustrations, discussions, and drawings should precede the learning of exact words, definitions, theorems, corollaries, etc., and these should be required only because of need.
2. Rigor in proof and in statements may discourage the beginner and make of him a student who memorizes his proofs. This should be reserved only for work in the later units, and even then discretion should be used with weaker students.
3. Writing of complete proofs on the blackboard should not be insisted upon. When the class participates in a proof, the figure should be sufficiently accurate to serve as a guide in giving an oral explanation of the proposition.
4. The analytic method of proof is the method of discovery, and will produce the most lasting results. For a thorough discussion of the importance of this method see Chapter XI of the Fifth Yearbook of the National Council of Teachers of Mathematics.
5. Not all symbols are universally accepted. Even the best texts do not all agree on terminology, ways of representing figures, and methods of arranging proofs. The teachers should read current literature dealing with mathematics for the latest information on such subjects.

D. Motivation

One of the most valuable helps for the teacher is the workbook. The material presented is pertinent to the subject matter being studied and gives a variety of situations involving geometric principles. Keys are furnished for checking which save much valuable time. Graded drills keep the pupils posted on their success or failure and stimulate them to further effort.

One of the best means to secure and maintain interest is to show the application of geometry to practical projects. Many problems can be borrowed from different trades, especially from the carpenter's trade. Cutting borders, matching moldings, and arranging designs are good problems.

V. Content

The content in this course is arranged in six units of work, each unit to extend over about six weeks. Besides the six units of work, there are listed at the end of the outline certain basal propositions including fundamental theorems, subsidiary theorems, loci theorems, and constructions that the teacher may use in connection with each unit as need for them occurs.

Unit I—First Six Weeks

A. Introduction

Present the history of geometry, stating the influence of such men as Thales, Euclid, Pythagoras, Archimedes. Begin use of compass and straight edge in simple constructions and follow with definitions of elementary parts.

1. Lines—straight, broken, curved
2. Perpendiculars
3. Notation and reading of angles and triangles
4. Bisectors of lines and angles
5. Circles, and related parts

B. Fundamental ideas

1. Clear concepts of geometric figures such as points, lines, planes, solids
2. Congruency, equality, similarity, equivalency
3. Measurement of angles. Introduce use of protractor only as an instrument for checking.
    a. Kinds of angles as defined by size
    b. Relations between angles — supplementary, complementary, conjugate, vertical, adjacent

C. Preliminary authorities

1. Axioms—learned and illustrated with numbers, lines, angles, etc., as far as is possible and practicable
2. Postulates—suggested drawings to illustrate in various positions. (Note: The idea of illustrating figures in various positions is in the beginning necessary, because experienced teachers know that while students will recognize a right triangle if the leg is made a base, they will fail to recognize it when the hypotenuse is the base.)

D. Rectilinear figures

1. Triangles—kinds of, and definitions of parts referring to triangles
2. Meaning of theorem, hypothesis, conclusion, proof, corollary, etc.

E. Theorems on congruency

1. **First theorem (two sides and included angle)**
    a. Superposition illustrated by paper or other models
    b. Application of theorem in right triangles
    c. Construction of triangle with parts given. (Note: Leading authorities recommend that constructions follow the theorems as soon as possible.)
2. **Second and third theorems on congruency of the triangle, with applications of same in exercises of texts**
    a. Students should be impressed with the fact that three independent parts are necessary to prove congruency
    b. In construction exercises, develop idea of exterior angles of a triangle, and also introduce the use of auxiliary lines. (Note: The substitution of a workbook for numerous exercises is recommended. See Bibliography.)

F. Parrallel lines

1. Illustrated and defined
2. Various angles formed by transversal and pair of parallel lines
   a. Have students estimate pairs of equal and pairs of supplementary angles so formed
   b. Proof of theorems for above pairs of equal or supplementary angles. (Note: Here the Analytic Method of proof could be introduced to the pupils by a theorem such as the following: If two parallel lines are cut by a transversal, the alternate exterior angles are equal.)
3. Introduce idea of converse, direct, opposite, and contradictory theorems
4. Use, and illustrate use of above theorems in proving lines parallel. Show how principles are used in draftsman's rule and triangles.
5. Prove that two angles whose sides are respectively parallel or perpendicular are either equal or supplementary
6. Avoid proof of parallel line theorems in which a "supposed" parallel or equal angle is used

G. Practical application

If time permits, introduce patterns based on triangles, and the use of above principles in carpentry and other fields.

Supplement the above with exercises and workbooks, and conclude with test based on this unit.

Unit II—Second Six Weeks

A. Quadrilaterals

1. Illustrate and define quadrilateral, trapezoid, parallelogram, rectangle, rhombus, and square
2. Trapezium and rhomboid are not recommended by the National Committee, but may be treated informally as supplementary work
3. Introduce in various positions, altitudes, diagonals, medians, opposite and adjacent angles, and supplementary and equal angles
4. Required proofs
   a. Either diagonal of a parallelogram divides it into two equal triangles
   b. The line joining the middle points of the two sides of a triangle is parallel to the base and equal to one-half of the base
   c. If three or more parallel lines cut off equal portions of one transversal, they cut off equal portions on any transversal
5. Present as supplementary work, the kinds of figures which would be formed by joining the midpoints of sides of various quadrilaterals in succession. This can also be done with triangles and the resulting figures will be treated more comprehensively in Unit IV.

B. Polygons

1. Illustrations and definitions of: polygon, sides, interior and exterior angles, diagonals, kinds of polygons according to number of sides, equilateral, equiangular, and regular polygons
2. Informal treatment and generalization of sum of angles, interior and exterior, in any polygon
3. Exercises for finding the sum of angles in a polygon, and of finding any angle included between sides when polygon is regular

C. Locus of a point

1. Emphasize
   a. A locus contains all points that satisfy a certain given condition
   b. There are no points on a locus that do not satisfy the condition
2. Illustrate many and varied concrete applications such as a coin rotating about another coin; handle of a door as door opens, locus of center of a ball as it rolls over a given surface
3. Assign exercises which call for abstract thinking using locus problems, after presentation of concrete illustrations. (Note: Problems based on loci are becoming increasingly more important because of their bearing on engineering, architecture, and higher mathematics, and hence should be presented repeatedly.)

D. Constructions

1. Teach construction of following angles and their multiples: 60°, 30°, 45°
2. Teach relation of sides in following triangles: 45°, 45°, 90°; and 90°, 30°, 60°
3. Introduce use of such instruments as transit, pantograph, and parallel rule

E. Supplementary work

1. The perpendiculars to the midpoints of the sides of a triangle meet in a point equidistant from the three vertices of the triangle
2. The bisectors of the angles of a triangle meet in a point equidistant from the three sides
3. The medians of a triangle meet in a point which is two-thirds of the distance from any vertex to the middle point of the opposite side
4. The median of a trapezoid is parallel to the bases and equal to one-half their sum
5. Construction exercises having various combinations of sides and angles in triangles and quadrilaterals given
6. Inequalities of sides of triangles, medians, bisectors of angles, and other inequalities presented by texts
7. Numerous exercises in text and workbooks

Unit III—Third Six Weeks

A. Circles

1. Illustration and definitions of: Circle, center, radius, diameter, major and minor arcs, chord, secant, tangent, segment, quadrant, concentric and eccentric circles
2. Prove: A diameter perpendicular to a chord bisects the chord and the arc which it intersects

B. Tangents and secants

1. Inscribed and circumscribed triangles
2. Prove: A line perpendicular to a radius at its extremity is tangent to the circle

3. Teach informally other theorems such as
    a. Two parallel lines intercept equal arcs on a circle
    b. Through three points not all on the same straight line, one and only one circle can be drawn
    c. A circle may be inscribed in any triangle

C. Measurement of angles

(Omit formal treatment of incommensurable cases and formal proofs involving limits.)

1. Discuss measurement of central angle, and define inscribed angle in various positions
2. Prove (all three cases): An inscribed angle is measured by one-half its intercepted arc
3. Informal proof only, of the following
    a. An angle formed by two chords intersecting within a circle is measured by one-half the sum of the intercepted arcs
    b. An angle formed by a tangent and a chord drawn through the point of tangency is measured by one-half the intercepted arc
    c. An angle formed by two tangents, two secants, or a tangent and a secant, is measured by one-half the difference of the intercepted arcs

D. Construction problems

1. Through a given point draw a tangent to a circle
    a. When point is on circumference
    b. When point is outside the circumference
2. To circumscribe a circle in a given triangle
3. To inscribe a circle in a given triangle
   (For the two latter see parts 1 and 2, section E of Unit II.)
4. On a given straight line construct a segment of a circle that will contain a given angle

E. Loci problems

1. Locus of mid-point of chords drawn from a point on the arc in a given circle
2. Locus of centers of circles passing through two given points
3. Locus of vertex of a right triangle having given the hypotenuse
4. Locus of points equidistant from two given intersecting lines
5. Other locus problems found in workbooks and texts

F. Supplementary work

1. Teach such miscellaneous exercises and constructions as time and ability of class will permit, including the sketching of two circles when line of centers is equal to, less than, or greater than the sum, or difference, of their radii; also the sketching of circles with various combinations of internal and external tangents. (See texts for additional exercises.)
2. Review of unit, and test

Unit IV—Proportion—Fourth Six Weeks

A. Definitions

Extremes, means, antecedents, consequents

B. Mathematical manipulation of terms of a proportion

1. Product of means equals product of extremes
2. If product of two members equals the product of any other two, two may be made the means, while the other two are extremes

3. Informal proof of theorems of proportion dealing with: Inversion, alternation, composition, division, composition and division, sum of antecedents and of consequents, equi-multiples, and equal powers.
   (The above laws prove invaluable in higher sciences such as physics, and also in advanced mathematics.)
4. Proportionals: Mean, third, fourth
5. Theorems to be proven and stressed
   a. A line parallel to the base of a triangle divides the other sides proportionally. (Commensurable case only.)
   b. If two or more parallel lines intercept more than one transversal, the corresponding intercepts are proportional
   c. The following, at option of teacher
      (1) Converse of a above, with corollaries
      (2) Other theorems not recommended by National Committee
6. Let pupils devise numerous drawings and test out above theorems recommended by National Committee, using geometric constructions wherever possible. Follow this work with numerous and varied exercises of an algebraic nature. Workbooks furnish much excellent practice.

C. Construction problems

1. To divide a given line into parts proportional to any number of given lines
2. To construct fourth proportional to three given lines
3. Exercises using the above principles

D. Similar triangles and polygons

1. Review definition of: Similar polygons and meaning of mutually equiangular and mutually equilateral figures
2. Prove theorems as follows:
   a. If two triangles are mutually equiangular, they are similar. Also the converse.
   b. Two triangles are similar if an angle of the one equals an angle of the other and the including sides are proportional
   c. If, in any right triangle, a perpendicular is drawn from the vertex of the right angle to the hypotenuse, the two right triangles thus formed are similar to each other and to the given triangle. (Note: This theorem with corollaries should be thoroughly mastered.)
   d. Construction—To find the mean proportional between two given line-segments
3. Similar polygons—ratio of similitude
   a. Prove
      (1) Regular polygons of the same number of sides are similar
      (2) The perimeters of any two similar polygons are to each other in the same ratio as any two corresponding sides
   b. Problems of numerical nature in which application is made of all facts learned so far in this unit. (Use text, workbooks and make up originals of practical everyday problems as far as possible.)
   c. Proportional properties of chords, secants, tangents
      (1) Prove
         (a) If two chords intersect within a circle, the product of the segments of one is equal to the product of the segments of the other
         (b) If from a point without a circle a secant and a tangent are drawn, the tangent is the mean proportional between the whole secant and its external part

- (2) Extreme and mean ratio—harmonic division
  - (a) By arithmetical means divide a number of lines internally and externally in the same ratio, until the class is able to do this using any given ratio
  - (b) Problem of construction—To divide a given line in extreme and mean ratio by geometric construction

E. Trigonometry of the right triangle

1. Show that if the ratio of any two sides of a triangle is known the acute angles are determined; also that if an acute angle of a right triangle is known the ratios of the sides are determined
2. Teach ratios and tables for the functions, sine, cosine, tangent
3. Work a number of problems in trigonometry referring, if necessary, to texts in algebra as well as geometry, and supplement this with actual problems from other sources

Unit V—Areas of Polygons—Numerical Properties of Figures

A. Prove theorems and take up corollaries for finding areas of rectangles, squares, parallelograms, triangles, trapezoid, rhombus (two ways), and irregular rectilinear figures

B. Solve numerous problems in which algebraic treatment is necessary, using principles applicable to above figures

C. Numerical properties of similar triangles

1. Prove
   - a. Two triangles that have an acute angle of the one equal to an acute angle of the other, are to each other as the products of the sides including these angles
   - b. Similar triangles are to each other as the squares of any two corresponding sides
     (Note: Emphasize and present repeatedly that whenever areas of any two similar figures are compared with corresponding lines, the ratios of the areas are the same as the ratios of the squares of the two lines respectively. This may be extended to include ratios of volumes of any two similar solids, when it must be emphasized that the ratio is then the same as the cube of any two corresponding lines respectively.)
   - c. Pythagorean theorem: The square on the hypotenuse of a right triangle is equivalent to the sum of the squares on the two other sides. (Present numerous proofs and do not omit corollaries.)
2. Problems of construction
   - a. To construct a square whose area shall be equal to the (a) sum; (b) difference, of two given squares
   - b. To construct a triangle whose area shall be equal to that of a given polygon
3. Many numerical problems involving above knowledge of geometry

D. Supplementary work for more capable students

1. Theorems such as
   - a. In any triangle the square of the side opposite an acute angle is equal to the sum of the squares on the other two sides, diminished by twice the product of one of those sides and the projection of the other upon that side

  b. In any obtuse triangle the square on the side opposite the obtuse angle is equal to the sum of the squares on the other two sides increased by twice the product of one of those sides and the projection of the other upon it. (These theorems furnish excellent practice in pure mathematics, and enable one to compute any median or altitude of a given triangle, the three sides being given.)

2. Constructions in which it is necessary to find third and fourth proportionals
    a. Construct a square equivalent to a given parallelogram, having given either the altitude or the base
    b. Having given base or altitude, construct triangle equivalent to given parallelogram. Others in texts.

E. Problems and exercises in workbooks; review; test

Unit VI—Regular Polygons and Circle Measurements

A. Theorems to be proved, such as

1. If a circle is divided into a number of equal arcs
    a. The chords joining the points of division form a regular polygon inscribed in the circle
    b. Tangents drawn at the points of division form a regular circumscribed polygon
2. A circle may be circumscribed about, or inscribed in, any regular polygon
   Define: Angle at center, radius, apothem, center of polygon
3. The circumferences of two circles are to each other as their radii. Treat corollaries algebraically.
4. Perimeters of regular polygons have the same ratio as their radii or their apothems
5. The area of a regular polygon equals half the product of the perimeter and the apothem
6. The area of a circle is equal to one-half the product of its radius and its circumference, or to π times the square of the radius. Treat corollaries algebraically.
7. Theorems pertaining to lines and areas of sectors and segments

B. Constructions

1. Inscribing square, regular hexagon, octagon, pentagon in a circle, also polygons whose sides are multiples

C. Problems of an algebraic nature in which it is necessary to transform equations to find unknowns, using geometric principles given in this unit

D. Problems in compound loci

E. Designs based on constructions learned in this unit

F. Supplementary problems, theorems, and exercises (found in texts and workbooks)

Practical work with moldings in making various polygons, using, if possible, carpenter's steel square. If time permits, projects in squaring the foundation of a building, cutting rafters, making picture frames, matching tiling or borders on rugs, getting height of objects by use of similar triangles, simple work in mechanical drawing, making pantograph and using same, give this subject a very decided vocational value, and make it interesting for the student.

G. Review and test

Basal Propositions

The course of study as outlined above is only suggestive and leaves room for as much work as the teacher desires to cover, there being no maximum amount defined. The arrangement given suggests a proper time distribution, with no attempt to indicate the minimum. For those who do not wish to use this arrangement, but who wish to have the minimum indicated, the propositions and constructions as set forth by the National Committee on Mathematical Requirements are here offered.

A. Fundamental theorems

1. Triangles with two sides and the included angle of one equal to the respective parts of another are congruent
2. Triangles with two angles and the included side of one equal to the respective parts of another are congruent
3. Base angles of an isosceles triangle are equal
4. Triangles with their sides respectively equal are congruent
5. Alternate interior angles of parallel lines are equal
6. The sum of the angles of a triangle equals a straight angle
7. Lines forming equal alternate interior angles with a transversal are parallel
8. A triangle with two angles equal is isosceles
9. Right triangles with the hypotenuse and leg of one equal to the respective parts of another are congruent
10. Either diagonal of a parallelogram divides it into two congruent triangles
11. A quadrilateral with its opposite sides equal is a parallelogram
12. A quadrilateral is a parallelogram if two sides are both equal and parallel
13. Central angles of a circle (or of equal circles) have the same ratio as their arcs
14. Equal central angles of a circle (or of equal circles) have equal arcs; and, equal arcs have equal central angles
15. Equal arcs of a circle (or of equal circles) have equal chords. Conversely, equal chords have equal arcs.
16. A line through the center of a circle perpendicular to a chord bisects the chord and its arcs
17. A line through the center that bisects a chord, which is not a diameter, is perpendicular to the chord
18. Equal chords of a circle (or of equal circles) are equally distant from the center; conversely, chords equally distant from the center are equal
19. A line perpendicular to a radius at its outer extremity has only one point in common with the circle
20. A line perpendicular to a radius at its outer extremity is tangent to the circle
21. A tangent and a radius drawn to the point of tangency are perpendicular to each other
22. An inscribed angle equals numerically one-half its intercepted arc
23. Angles inscribed in a segment of a circle are equal
24. The area of a triangle equals one-half the product of a base and its altitude
25. The area of a parallelogram equals the product of its base and altitude
26. The area of a trapezoid equals one-half the product of an altitude by the sum of the bases
27. A line parallel to a side of a triangle divides the other two sides proportionally
28. The segments cut off on two transversals by a series of parallel lines are proportional

29. If three or more parallel lines intercept equal segments on one transversal, they intercept equal segments on every transversal
30. A line which divides two sides of a triangle proportionally is parallel to the third side
31. The bisector of an interior angle of a triangle divides the opposite side into segments which have the same ratio as the other two sides
32. The bisector of an exterior angle of a triangle divides the opposite side externally into segments which have the same ratio as the other two sides
33. Triangles with two angles of one equal to two angles of another are similar
34. Triangles with an angle of one equal to an angle of another and the including sides proportional are similar
35. Triangles with proportional sides are similar
36. Corresponding triangles of similar polygons are similar
37. Polygons formed by like-placed similar triangles are similar
38. The perimeters of similar polygons have the same ratio as their corresponding sides
39. Similar triangles have the same ratio as the squares of their corresponding sides
40. Similar polygons have the same ratio as the squares of their corresponding sides
41. The product of the segments of one of two intersecting chords equals the product of the segments of the other
42. The altitude upon the hypotenuse of a right triangle forms two triangles each similar to the given triangle and to each other
43. The square on the hypotenuse of a right triangle equals the sum of the squares on the legs
44. If a circle is divided into three or more equal arcs, the chords of these arcs form a regular inscribed polygon, and
45. The tangents at the points of division form a regular circumscribed polygon
46. The area of a regular polygon equals one-half the product of its apothem by its perimeter
47. If C is the circumference and D the diameter of a circle, $C = \pi D = 2\pi r$
48. The area of a circle equals π times the square of the radius

B. Subsidiary theorems

1. A line perpendicular to one of two parallel lines is perpendicular to the other also
2. Exterior-interior angles of parallel lines are equal
3. Interior angles on the same side of the transversal of parallel lines are supplementary
4. An exterior angle of a triangle equals the sum of the non-adjacent interior angles
5. Lines forming equal exterior-interior angles with a transversal are supplementary
6. Lines forming supplementary interior angles on the same side of a transversal are parallel
7. Angles whose sides are parallel each to each are either equal or supplementary
8. Angles whose sides are perpendicular each to each are either equal or supplementary
9. The opposite angles of a parallelogram are equal and any two consecutive angles are supplementary
10. The opposite sides of a parallelogram are equal

11. The diagonals of a parallelogram bisect each other
12. A quadrilateral is a parallelogram if the diagonals bisect each other, and
13. A quadrilateral is a parallelogram if the opposite angles are equal
14. The sum of the interior angles of a polygon of n sides equals $(n - 2)\ 180°$
15. The perpendicular bisectors of the sides of a triangle are concurrent in a point equidistant from the vertices
16. The bisectors of the angles of a triangle are concurrent in a point equidistant from the sides
17. The altitudes of a triangle are concurrent
18. The medians of a triangle are concurrent
19. The medians of a triangle meet in a point which is two-thirds of the distance from each vertex to the midpoint of the opposite side
20. Tangents from a point to a circle are equal
21. An angle formed by a tangent and a chord drawn from the point of tangency equals numerically one-half its intercepted arc
22. An angle formed by two chords intersecting within a circle equals numerically one-half the sum of the arcs intercepted by it and its vertical angle
23. An angle inscribed in a semicircle is a right angle
24. An angle formed by two secants, two tangents, or a tangent and a secant intersecting without a circle equals numerically one-half the difference of the intercepted arcs
25. Arcs of a circle included between parallel lines are equal
26. Triangles with equal bases and equal altitudes are equal
27. Parallelograms with equal bases and equal altitudes are equal
28. A tangent from a point to a circle is the mean proportional between a secant from that point and its external segment
29. The perimeters of regular polygons of the same number of sides have the same ratio as their radii or as their apothems
30. Angles opposite unequal sides of a triangle are unequal and the greater angle is opposite the greater side
31. In triangles with two sides of one equal respectively to two sides of another, but the included angle of the first greater than the included angle of the second, the third side of the first is greater than the third side of the second
32. In triangles with two sides of one equal respectively to two sides of another, but the third side of the first greater than the third side of the second, the angle opposite the third side of the first is greater than the angle opposite the third side of the second
33. The greater arc of a circle (or of equal circles) has the greater chord; conversely, the greater chord has the greater arc
34. The greater of two chords of a circle (or of equal circles) is nearer the center; conversely, the chord nearer the center is greater

C. Constructions

1. To find the perpendicular bisector of a given line
2. To find the bisector of a given line
3. To find a perpendicular to a given line through a given point
4. To find an angle equal to a given angle
5. To construct a triangle having given the three sides
6. To construct a triangle having given two sides and the included angle
7. To construct a triangle having given a side and two angles
8. To construct the bisector of an angle

9. To construct a line through a given point and parallel to a given line
10. To find a tangent to a circle through a point on the circle
11. To find a tangent to a circle through a point outside the circle
12. To find a circle circumscribed about a given triangle
13. To find a circle inscribed in a given triangle
14. To find a fourth proportional to three lines
15. To find a mean proportional between two lines
16. To find the segments of a line which are proportional to any number of given lines
17. To find a triangle similar to a given triangle and with a given ratio of similitude
18. To construct a polygon similar to a given polygon and with a given ratio of similitude
19. To find a triangle equal to a given polygon
20. To inscribe a square in a circle
21. To inscribe a regular hexagon in a circle

D. Loci theorems

1. The locus of points equidistant from the extremities of a line is the perpendicular bisector of the line
2. The locus of points equidistant from two given intersecting lines is the pair of lines bisecting the angles formed by those lines

PART FIVE—SOLID GEOMETRY

I. Aims

A. To cultivate the ability to visualize positions of objects in space

B. To give further training in the mensuration of familiar types of solids

C. To teach a few new forms, such as frustums and spherical triangles

D. Incidentally, to give greater proficiency in the use of the formula; to provide drill in arithmetical operations; to develop skill in drawing; to teach sensible approximations; and to stimulate functional thinking

E. To prepare students for work in spherical trigonometry and surveying

F. To give further training in accuracy, conciseness of statement, and logical reasoning

II. Attainments

A list of fundamental and subsidiary theorems taken from the report of the National Committee on Mathematical Requirements (1923) is given for the guidance of the teacher. The subject is usually presented to third or fourth year students and logically follows the completion of plane geometry. The completion of the course in Solid Geometry entitles the student to one-half unit of credit.

III. Procedure

A. The use of models in the beginning of the course is helpful but should be gradually eliminated

B. Many practical problems in figuring areas and volumes should be worked. The slide rule should be used for long computations.

IV. Content

A. The usual theorems and constructions of good textbooks

1. Relations of lines and planes in space
2. The properties and measurements of
   a. Prisms and cylinders
   b. Pyramids and cones
   c. Frustums of pyramids and cones
   d. Regular polyhedrons, similar polyhedrons, prismatoids
3. Spherical geometry
   a. The sphere
   b. Spherical triangles, lunes, spherical polygons

B. The solution of numerous original exercises including loci problems

C. Application to the mensuration of surfaces and solids

There should be emphasis upon the correct presentation of solutions in equation form, as well as upon obtaining accurate results. Radio and airplane distances can be computed.

D. Interesting history

Basal Propositions

A. Fundamental theorems

1. If two planes meet, they intersect in a straight line
2. If a line is perpendicular to each of two intersecting lines at their point of intersection it is perpendicular to the plane of the two lines
3. Every perpendicular to a given line at a given point lies in a plane perpendicular to the given line at the given point
4. Through a given point (internal or external) there can pass one and only one line perpendicular to a plane
5. Two lines perpendicular to the same plane are parallel
6. If two lines are parallel, every plane containing one of the lines and only one is parallel to the other
7. Two planes perpendicular to the same line are parallel
8. If two parallel planes are cut by a third plane, the lines of intersection are parallel
9. If two angles not in the same plane have their sides respectively parallel in the same sense, they are equal and their planes are parallel
10. If two planes are perpendicular to each other, a line drawn in one of them perpendicular to their intersection is perpendicular to the other
11. If a line is perpendicular to a given plane, every plane which contains this line is perpendicular to the given plane
12. If two intersecting planes are each perpendicular to a third plane, their intersection is also perpendicular to that plane
13. The sections of a prism made by parallel planes cutting all the lateral edges are congruent polygons
14. An oblique prism is equal to a right prism whose base is equal to a lateral edge of the oblique prism
15. The opposite faces of a parallelopiped are congruent
16. The plane passed through two diagonally opposite edges of a parallelopiped divides the parallelopiped into two equal triangular prisms

17. If a pyramid (or a cone) is cut by a plane parallel to the base:
    a. The lateral edges (or elements) and the altitude are divided proportionally
    b. The section is a figure similar to the base
    c. The area of the section is to the area of the base as the square of the distance from the vertex is to the square of the altitude of the pyramid (or cone)
18. Two triangular pyramids having equal bases and equal altitudes are equal
19. All points on a circle of a sphere are equidistant from either pole of the circle
20. On any sphere a point which is at a quadrant's distance from each of two other points not the extremities of a diameter is a pole of the great circle passing through these two points
21. If a plane is perpendicular to a radius at its extremity on a sphere, it is tangent to the sphere
22. A sphere can be inscribed in or circumscribed about any tetrahedron
23. If one spherical triangle is the polar of another, then reciprocally the second is the polar triangle of the first
24. In two polar triangles each angle of either is the supplement of the opposite side of the other
25. Two symmetric spherical triangles are equal

B. Fundamental propositions in mensuration

1. The lateral area of a prism or a circular cylinder is equal to the product of a lateral edge or element respectively, by the perimeter (circumference) of a right section
2. The volume of a prism (including any parallelopiped) or of a circular cylinder is equal to the product of its base by its altitude
3. The lateral area of a regular pyramid or a right circular cone is equal to half the product of its slant height by the perimeter (circumference) of its base
4. The volume of a pyramid or a cone is equal to one-third the product of its base by its altitude
5. The area of a sphere
6. The area of a spherical polygon
7. The volume of a sphere

C. Subsidiary theorems

1. If from an external point a perpendicular and obliques are drawn to a plane, (a) the perpendicular is shorter than any oblique; (b) obliques meeting the plane at equal distances from the foot of the perpendicular are equal; (c) of two obliques meeting the plane at unequal distances from the foot of the perpendicular, the more remote is the longer.
2. If two lines are cut by three parallel planes, their corresponding segments are proportional
3. Between two lines not in the same plane there is one common perpendicular, and only one
4. The bases of a cylinder are congruent
5. If a plane intersects a sphere, the line of intersection is a circle
6. The volumes of two tetrahedrons that have a trihedral angle of one equal to a trihedral angle of the other are to each other as the products of the three edges of these trihedral angles
7. In any polyhedron the number of edges increased by two is equal to the number of vertices increased by the number of faces
8. Two similar polyhedrons can be separated into the same number of tetrahedrons similar each to each and similarly placed

9. The volumes of two similar tetrahedrons are to each other as the cubes of any two corresponding edges
10. The volumes of two similar polyhedrons are to each other as the cubes of any two corresponding edges
11. If the three-face angles of one trihedral angle are equal, respectively, to the three-face angles of another the trihedral angles are either congruent or symmetric
12. Two spherical triangles on the same sphere are either congruent or symmetric if (a) two sides and the included angle of one are equal to the corresponding parts of the other; (b) two angles and the included side of one are equal to the corresponding parts of the other; (c) they are mutually equilateral; (d) they are mutually equiangular.
13. The sum of any two-face angles of a trihedral angle is greater than the third-face angle
14. The sum of the face angles of any convex polyhedral angle is less than four right angles
15. Each side of a spherical triangle is less than the sum of the other two sides
16. The sum of the sides of a spherical polygon is less than 360°
17. The sum of the angles of a spherical triangle is greater than 180° and less than 540°
18. There cannot be more than five regular polyhedrons
19. The locus of points equidistant (a) from two given points; (b) from two given planes which intersect

D. Subsidiary propositions in mensuration

1. The volume of a frustum of (a) a pyramid or (b) a cone
2. The lateral area of a frustum of (a) pyramid or (b) a cone of revolution
3. The volume of a prismoid (without formal proof)

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PART SIX—PLANE TRIGONOMETRY

I. Aims

A. To stimulate functional thinking
B. To train in the method of trigonometric analysis
C. To secure skill and real facility in the solutions of practical problems
D. To secure speed and accuracy in the use of logarithms and the slide rule

II. Attainments

The course in trigonometry is usually given to fourth year students and is primarily for those students who know they are going into the engineering fields or for those who are the specializers in mathematics. The completion of the course entitles the student to one-half unit of credit.

III. Content

A. Topical outline

1. Function of an acute angle
2. Solution of right triangle, isosceles triangle and regular polygons
3. Functions of angles of any magnitude
4. General formulas
    a. Functions of the sum and of the difference of two angles
    b. Functions of twice an angle and of half an angle
    c. Formulas for $\sin A \pm \sin B$ and $\cos A \pm \cos B$
5. Inverse trigonometric functions

6. Relations between the sides and functions of the angles of a triangle
   a. Law of sines
   b. Law of cosines
   c. Law of tangents
   d. Functions of the angles and the area of a triangle in terms of its sides
7. Solution of oblique triangles; application of the formulas under 6
8. Plane, parallel and middle latitude sailing
   (For extra credit and for those going to a technical college)
9. Simultaneous equations
10. De Moivra's theorem

B. Outline in detail

1. **Functions of an acute angle**
   a. Functions defined by the ratios of the sides of a right triangle
      (1) Use of terms: adjacent side, opposite side, and hypotenuse
      (2) Have pupils note the reciprocal relations of certain functions
      (3) Construct the angle when any one function is given
   b. Functions defined by lines
   c. Ratio and Pythagorean formulas
      (1) Prove
         (a) $\tan x = \frac{\sin x}{\cos x}$
         (b) $\cot x = \frac{\cos x}{\sin x}$
         (c) $\sin^2 x + \cos^2 x = 1$
      (2) Note that $\sin^2 x$ means $(\sin x)^2$, the exponent affecting the function, not the angle
   d. Functions of complementary angles
   e. Functions of an angle expressed in terms of any other function
   f. Verification of identities
      (1) Insist on reducing one member to the form of the other
   g. Functions of 30°, 45°, 60°, 0°, 90°
      (1) Emphasize that $1/0$ equals ∞, means that the quotient **approaches** infinity as the denominator approaches 0. Similarly that $1/\infty$ equals 0, means that the quotient **approaches** 0 as the denominator indefinitely increases.
   h. Solution of trigonometric equations

2. **Solution of right triangles, isosceles triangles, regular polygons**
   a. By natural functions
      (1) Problems
   b. By logarithms
      (1) Problems
   c. By use of slide rule
   (Note: Some boy in the class is usually willing to improvise, for extra credit, a crude transit by the use of which the approximate height of buildings, etc., may be found.)

3. **Trigonometric functions of angles of any magnitude**
   a. Positive and negative lines, positive and negative angles
   b. Definition of the functions
      (1) In terms of abscissa, ordinates
      (2) Show in general there are two angles between 0° and 360° with the same numerical function
   c. Reduction of angles of any magnitude to those of acute angles
   d. Circular measure of angles
      (1) Definition of unit
      (2) Use of radian

  - e. Solution of trignometric equations, angles of any magnitude
  - f. Graphs of the trigonometric functions

4. **General formulas**
    - a. Functions of the sum and difference of two angles
        - (1) Derivation of formulas
        - (2) Applications
    - b. Functions of twice an angle; of half an angle
        - (1) Derivation
        - (2) Applications
    - c. Derivation and application for sin A ± sin B and cos A ± cos B
    - d. Verification of identities
    - e. Solution of equations involving formulas a, b, and c

5. **Inverse trigonometric functions**

The student should be familiar with the three methods of expressing the size of an angle: in degrees, radians, and as an inverse function. This knowledge is necessary if one would read articles in scientific magazines intelligently. If texts or magazine articles can be procured in French or German, the pupils will be impressed with the value of being able to interpret these.

6. **Relations between the sides, and the functions of the angles of a triangle**
    - a. Law of sines
    - b. Law of cosines
    - c. Law of tangents
    - d. Functions of the angles and area of a triangle in terms of its sides (The use of the slide rule in the application of the law of sines will be appreciated.)

7. **Solution of oblique triangles by application of formulas under 6**
    - a. A triangle is not determined unless three independent parts are given, one of which must be a side
    - b. When two sides and the included angle are given, the law of tangents or cosines is used
    - c. When three sides are given, one of the "S formulas" or the law of cosines is used
    - d. When other combinations of the elements are given, the law of sines is used
        - (1) Point out the relative advantages of the two formulas in b and c
        - (2) Discuss relative advantages of $\sin \frac{1}{2} A = \sqrt{\frac{(s-b)\ (s-c)}{bc}}$ $\cos \frac{1}{2} A = \sqrt{\frac{(s)\ (s-a)}{bc}}$; $\tan \frac{1}{2} A = \sqrt{\frac{(s-b)\ (s-c)}{s(s-a)}}$
        - (3) Emphasize the importance of checking results. (Here is an important function of the slide rule.) Consider also the importance of the form of work in computation.

Numbers 8, 9, and 10, under **III Content**, being rather supplementary, need no detailed comment. It is probable that number 9 will be the one for which the students may have the most use later on.

IV. Procedure

No attempt has been made at distributing the time which will differ according to the ability of the classes.

No rigid adherence to order of topics presented is necessary. Very soon after section 1 is studied a few practical applications with transit and tape line will vitalize the subject.

V. Bibliography

A. Texts

Bauer-Brooks, Plane and Spherical Trigonometry. D. C. Heath and Company, Chicago

Breslich and Stone, Trigonometry. University of Chicago Press, Chicago. 1931

Curtiss-Moulton, Trigonometry. D. C. Heath and Company, Chicago

Garabedian-Winston, Plane Trigonometry. McGraw-Hill Book Company, 370 Seventh Avenue, New York

Harding-Turner, Plane Trigonometry. G. P. Putnam's Sons, West 45th Street, New York

Lennis-Murrill, Plane Trigonometry. Harper and Brothers, New York

Palmers-Leigh, Plane and Spherical Trigonomerty. McGraw-Hill Book Company, 370 Seventh Avenue, New York

Smith, Reeve and Morss, Essentials of Trigonometry. Ginn and Company, Chicago

Taylor, Plane Trigonometry. Ginn and Company, Chicago

B. Supplementary material

The Use of Measuring Instruments in Teaching Mathematics, C. N. Shuster. Third Yearbook of The National Council of Teachers of Mathematics. (1928) Bureau of Publications, Teachers College, Columbia University, New York. $1.75

The Use of the Starrett Transit. L. S. Starrett Company, Athol, Massachusetts. Free Leaflet. Tells how to use a transit and level in ordinary problems of farm surveying.

C. Tests

American Council Trigonometry Test. World Book Company, Yonkers, New York

PART SEVEN—GENERAL MATHEMATICS

(Also called Correlated, Composite, or Unified Mathematics)

I. Introductory Statement

As defined by Dr. R. Schorling, general mathematics is "an introductory basic exploratory course in which the simple and significant principles of arithmetic, algebra, geometry, statistics and numerical trigonometry are taught so as to emphasize their natural and numerous interrelations."

Leading mathematicians and professors of mathematics have long recognized the relationship between the subjects of secondary mathematics, especially algebra and geometry, and have advocated the desirability of teaching them together. As early as 1903, Professor Moore, head of the Department of Mathematics, of the University of Chicago, in an address before the American Mathematical Society, frankly advocated the abolition of "water-tight compartments" by which arithmetic is taught in one compartment, algebra in another, geometry in a third, trigonometry in a fourth, and presented vigorously the contention that mathematics be taught as one subject, each division helping and illuminating the others. (Breslich, E. R., The Development of a Curriculum in Correlated Mathematics and Discussion of Aims, Values, and Results, Reprinted from Studies in Secondary Education, Vol. I, University of Chicago Press, Chicago.) Many teachers of secondary mathematics have felt that better results could be accomplished with the high school pupil by correlating these subjects. Instead of devoting the first year in mathematics almost entirely to algebra and the second almost entirely to geometry, the various branches of mathematics: arithmetic, algebra, geometry (plane and solid), and trigonometry, are integrated into a comprehensive whole, taught so as to be continually supplementing one another. Some of the advantages of this plan are enumerated in the following:

A. It facilitates a psychological arrangement of the subject matter

1. Each of the various divisions of secondary mathematics includes simple principles relatively easy to master, and also difficult complex principles. The simple principles of each subject are best presented to beginners, and may, therefore, be brought together in a course which gradually leads up to the more complex aspects of these branches.
2. Each subject is reinforced by the help of the others, and so the entire work is integrated and vitalized. The principles in question and the problems can be made real and significant to pupils, because they can more readily understand their application to real situations.
3. It furnishes the best foundation for further work in the field of mathematics.

B. It reduces formalism

When the various mathematical subjects are treated separately, each tends to take on the rigid form of the final science. This leads to a certain formalism in the mode of presentation that is not the most convenient method of teaching high school students.

C. Ample time is allowed for the development of mathematical abilities

1. Frequently, lack of experience results in inability on the part of the pupil to understand the meaning of what has been taught in class. Too often the work in algebra and geometry becomes difficult too rapidly.
2. Another difficulty is to be found in the demand made upon the student to use mathematical concepts in a demonstrative proof which as yet has little or no meaning to him. The result, often, is that he may for months be groping in the dark, or he may begin imitating or memorizing work he does not understand. The pupil should meet these difficulties gradually, and in a correlated mathematics course this may be easily arranged.
3. Certain processes which logically belong together, but present real difficulty for the beginner, may be separated in treatment.

D. Correlation makes it possible to fit the subject more effectively to the needs of the pupil

1. The student who takes but one year of high school mathematics will acquire such knowledge of geometric facts as he is most likely to use in later life and he will know enough algebra to serve as an aid in solving problems. The fundamental notions of trigonometry will appeal to him as tools, useful in problem solving. These may be introduced at an early stage and so presented as not to create any material difficulty for the beginner.
2. More stress can be laid on the inclusion of topics which have social value, which can be understood by the pupil, and which are most essential to adult life.

E. Correlation satisfies the demand for concrete mathematics

The elementary concepts of algebra may be made more concrete by the early introduction of geometry used as an aid in making clear algebraic principles and processes, and to furnish high school pupils an abundance of concrete material. Abstract processes of algebra can be made concrete through geometry and many important relations may be interpreted geometrically. The graph is used to illustrate the fundamental processes and to make clear the steps in solutions of equations. By such correlations the student will have more insight into the real meaning of mathematical processes and will be in less danger of merely juggling symbols. He may receive training in both two- and three-dimensional thinking.

F. Needless reviews are avoided

1. Through the employment of algebraic notation and the continued application of the equation to geometrical matters firm hold is kept on algebra. The frequent use of theorems in furnishing principles for stating algebraic equations gives opportunity for review of those theorems and for their proof.
2. Knowledge gained in algebra and trigonometry is easy to recall when made concrete by geometry.

G. Correlation furnishes motives for better methods and further study

1. The student will early appreciate the advantages of having various modes of treating the facts of quantity. The graph will bring out facts not easily discernible in the study of a table; while the equation will give these facts in a brief form which will readily yield a particular required fact.
2. The superiority of algebraic over geometric or arithmetic methods is used as a motive for the study of algebra. Trigonometric methods give opportunity to show the value of trigonometry and its advantages over algebra and geometry. Thus interest in subsequent studies is aroused, and the student is more likely to continue the study of mathematics.

H. Functional relations are emphasized throughout the course, thus making possible guidance in electing mathematics

1. The increased ability to make mathematics function in other high school subjects, as physics, commercial subjects, shop work, etc., is commendable.
2. Increased interest and an enthusiasm for mathematics will come with better understanding. Students will be more likely to continue to plan for a life work along lines requiring mathematics if they can see values in all branches of mathematics.
3. Students are properly informed of the vital importance of mathematics in many lines of endeavor in adult life.

I. There is a gain in mathematical power

1. When students make the acquaintance of only one subject in mathematics during the first year, they fail to get an insight into secondary mathematics with its varying modes of attack. Discouraged by failure in one subject, these students do not continue the study of mathematics, and so they miss the opportunity to discover that they can be successful in other branches of mathematics.
2. In the parallel teaching of the mathematics courses, pupils learn to attack problems by various methods. This ability and the ex-

perience of meeting problems in a large number of situations gives an excellent preparation for future college work.

3. The increase in mathematical power also results in a decrease in the number of failures.

J. Correlation in mathematics saves time

A representative high school class will cover in three years the work which in separate courses is usually given in one and one-half years of algebra, one and one-half years of geometry and one-half year of trigonometry, or the equivalent of three and one-half years of mathematics. The saving is not effected at a loss to the pupil, but is the result of a better arrangement, clear understanding, and of time gained by making frequent reviews unnecessary. The student is held responsible at all times for what he has learned in all subjects of mathematics and for using algebraic methods for solving problems instead of the less effective arithmetical methods.

(Adapted from E. R. Breslich's Correlation of Mathematical Subjects, in February, 1920, issue of School Science and Mathematics, Vol. XX, No. 2)

II. Objectives, Aims, and Purposes

Many of the advantages of correlated mathematics, listed above, may serve as objectives and purposes for the course. The "aims and purposes of the teaching of mathematics must be sought in the nature of the subject, the role it plays in the practical, intellectual, and spiritual life of the world, and in the interests and capacities of the students . . . . The primary purpose of the teaching of mathematics should be to develop those powers of understanding and analyzing relations of quantity and of space which are necessary to an insight into and a control over our environment and to an appreciation of the progress of civilization in its various aspects, and to develop those habits of thought and of action which will make those powers effective in the life of the individual."

(The Reorganization of Mathematics in Secondary Education, Bureau of Education, Bulletin No. 32, 1921)

More specifically the aims are:

A. To give a knowledge of the fundamental facts and principles of mathematics, needed by the student in other subjects and in his vocational interests

B. To develop the ability to visualize objects, relations and conditions; i. e., to develop spatial and pictorial imagination

C. To coordinate and build up the content of each year's study in correlated mathematics to keep pace with the advancing mental growth of the students

D. To use constantly the various processes so that there will be no loss of skill

E. To give the student a thorough understanding of the various mathematical methods involved in the relationship between quantities

F. To teach arithemetic, algebra, geometry, and trigonometry so that they will constantly be supplementing one another

G. To show the very great importance of mathematics and mathematical courses in the activities of the world today

III. Attainments

The first course in General Mathematics will replace the course in ninth grade algebra, and the second course in General Mathematics will replace the usual second-year Geometry course. If a third year of General Mathematics is given, it should replace the courses in Adanced (Intermediate) Algebra, Solid Geometry, and Trigonometry. The student, upon completing each year's work in General Mathematics, is entitled to one unit of credit.

IV. Content

First Year

In those four-year high schools in which pupils have not had the benefit of reorganized instruction in the mathematics of the seventh and eighth grades, recommended by the National Committee on Mathematical Requirements under the auspices of the Mathematical Association of America, Inc. (1923), the ninth grade course should contain both algebra and geometry. According to the recommendations of the above Association, about two-thirds of the time should be devoted to the most useful and the more elementary parts of algebra, including the work on numerical trigonometry. and the other one-third of the time should be devoted to geometry, including the necessary informal introduction, and if possible the first part of demonstrative geometry. From their previous study in arithmetic, the pupils will be acquainted with most of the fundamental geometric forms and with the measurement of the most important plane and solid figures. The work in geometry in the ninth grade can then be made to center about indirect measurement and the idea of similarity (leading to the processes of numerical trigonometry) and such geometric relations as the sum of the angles of a triangle, the Pythagorean proposition, congruence of triangles, parallel and perpendicular lines, quadrilaterals, and the more important simple constructions. Many formulas and the use of the sine, tangent and cosine may be included. Stress should be placed upon graphing of all kinds. Elementary statistics may be studied. No great amount of business arithmetic should be included. The slide rule, logarithms, and short-cut methods of computation should be studied. Historical and biographical material should be used throughout to make the work more interesting and significant.

Second Year

The combined type of mathematics of the first year is to be carried forward through the second year, the emphasis chiefly being on demonstrative geometry. During this year the class should complete the essentials of what is commonly required in the first two years of high school mathematics in both algebra and geometry, and in addition more of the elementary notions of trigonometry (especially in the study of regular polygons and the circle), and the development of some of the fundamental relations between these functions in proving geometric theorems. A real beginning in the study of solid geometry should be made before completing plane geometry. In the study of loci it is possible to develop to advantage the fundamental theorems dealing with space of three dimensions. Theorems on lines and planes in space, diedral angles, areas of surfaces, and volumes of solids may well be included. Computational geometry should be stressed throughout. The discussion of polyhedral angles and spherical polygons should be omitted at this time. Fractional equations and proportions should be studied this year. Quadratic equations may be introduced in connection with the various theorems of mean proportionals.

Third Year

The third-year work is a continuation of the study of the topics begun in the preceding years; the work including algebra (the material given usually in the third semester of algebra), trigonometry (completed or nearly so), and solid geometry (completed).

V. Bibliography

A. Texts

Starred books represent texts useful for one-year courses.

Breslich, E. R., Series of Correlated Mathematics for High Schools. University of Chicago Press, Chicago. The following books:

  Senior Mathematics, Book One. (1931) Interweaves the easier and more concrete portions of algebra and geometry. Much use of the graph and drawing to scale.

  Senior Mathematics, Book Two. (1930) Extends the algebraic growth and emphasizes demonstrative geometry. Gives some training in space geometry in addition to completing plane geometry. Good introduction to trigonometry.

  Senior Mathematics, Book Three. Completion of solid geometry and trigonometry. Algebra is carried through progression and simultaneous quadratics. The correlation between algebra and trigonometry is very close.

  Logarithmic and Trigonometric Tables and Mathematical Formulas (to accompany Third-Year Mathematics). Simplicity has been the aim.

Smith, Foberg and Reeve, General High School Mathematics, Book I and Book II. Ginn and Company, Chicago. 1925 and 1926. Book I gives an appreciation of the nature and uses of algebra, an acquaintance with the facts of "intuitive geometry" and an insight into the practical uses of numerical trigonometry. Gives a good all-round view of mathematics. Book II has demonstrative plane geometry as its central feature. Simpler parts of solid geometry are also taken up. Trigonometry, including the logarithmic solution of the right triangle, is presented at the point where it is a real aid to geometry.

*Dunn, Huebner and Goldthwaite, Ninth Grade Mathematics. Ginn and Company, Chicago, 1929. A book for students who wish to secure all possible utilitarian values from a one-year course in Mathematics. Includes for the first semester the simpler phases of constructive geometry, scale drawing, an abundance of statistical material with graphs, special problems and square root. The emphasis of the second semester is on the simpler parts of algebra leading up to the equation. Formulas under different headings with many problems are provided. Algebraic ratio and proportion and trigonometric ratios are included.

Schorling and Reeve, General Mathematics, Book One. Ginn and Company, Chicago. 1919. The fundamentals of algebra, geometry, trigonometry, practical drawing and a rigorous extension of arithmetic, emphasizing the practical concepts of mathematics. "Chapter Tests" in 48-page booklet with diagrams.

Reeve, General Mathematics, Book Two. Ginn and Company, Chicago. 1922. Follows Schorling and Reeve's General Mathematics, Book One. The work of the first year is reviewed and extended through applications. The emphasis is on demonstrative geometry.

*Schorling, Clark and Rugg, Modern Mathematics, Briefer Course. World Book Company, Yonkers, New York. 1929. A general mathematics for the ninth grade, and especially adapted for those who will not pursue mathematics beyond the ninth year.

*Rugg and Clark, Fundamentals of High School Mathematics. World Book Company, Yonkers, New York. 1926. Fills the need of a General Mathematics for those who will study mathematics but one year. The book is distinctive for its eliminations as well as its contents. A textbook designed to follow arithmetic.

*Swenson, John A., High School Mathematics. The Macmillan Company, San Francisco. 1923. The book includes algebra, advanced arithmetic, intuitive geometry, some demonstrative geometry, and the elements of trigonometry. Logarithms are introduced to show some of the practical applications of algebra. Decimals and percentage have been emphasized, in both algebra and geometry. Comprehensive treatment of graphs. Study of variation has been made an important feature.

B. Supplementary material

Boarding House Geometry; and The Human Element in Mathematics, in "Literary Lapses" (pp. 26-27 and pp. 237-245), Stephen Leacock. Dodd, Mead and Company, Fourth Avenue and 30th Street, New York, $2.00. The first of these essays treats of life in a boarding house in the style of a textbook in plane geometry, with definitions, postulates, and theorems. "The Human Element in Mathematics" deals with the life history of A, B, and C, based on their careers as stated in verbal problems in algebra.

Bussey, Non-Euclidean Geometry. The Mathematics Teacher, XV, pp. 445-459 (December, 1922). The Mathematics Teacher, 525 West 120th Street, New York. Single copies 40 cents. A well-written introduction to this subject.

Evolution of a Slide Rule. Keuffel and Esser Company, 127 Fulton Street, New York. Free. A mimeographed set of directions for making and operating a slide rule, the object being to learn the methods of using a slide rule by actually constructing a rule and experimenting with it The directions are clear and concise.

Flatland, A Romance of Many Dimensions, "A Square" (E. A. Abbott). Little, Brown and Company, Chicago. An interesting speculation about existence as it would be in a world that consists of a line and in a world that consists of a plane. As such it serves as an introduction to the idea of the fourth dimension.

Homemade Instruments. Chapter in "The Teaching of Junior High School Mathematics" by Smith and Reeve. Ginn and Company, Chicago. $2.00. This chapter (XII, pp. 359-368) describes the construction and use of simple surveying instruments.

Roman Surveying, L. C. Karpinski. School Science and Mathematics, XXVI: pp. 853-855 (November, 1926). School Science and Mathematics, 2055 East 72nd Place, Chicago. Single copy, 35 cents. This article describes the Roman surveying instrument, the groma, which was recently discovered at Pompeii. Contains illustrations of the original groma and also of a reconstruction of the instrument.

Rupert, Famous Geometrical Theorems and Problems. D. C. Heath and Company, Chicago. Gives history of each theorem.

Shuster, C. N., The Use of Measuring Instruments in Teaching Mathematics. Third Yearbook of the National Council of Teachers of Mathematics (1928). Bureau of Publications, Teachers College, Columbia University, New York, $1.75. The article is full of practical suggestions on the use of measuring instruments in class work.

Surveying. Merit Badge Series. Boy Scouts of America, 200 Fifth Avenue, New York City. 20 cents. Perhaps the best simple manual on surveying. It describes the usual methods of measuring distances, discusses map making, and explains the use of the plane table, slope board, and other instruments.

Sykes, Source Problems in Geometry. Allyn and Bacon, San Francsico. $2.50. Contains many applications of geometry in various fields.

The Use of the Starrett Transit. L. S. Starrett Company, Athol, Massachusetts. Free leaflet. Tells how to use a transit and level in ordinary problems of farm surveying.

COURSE OF STUDY

State of Montana

HIGH SCHOOL

Science

Elizabeth Ireland
State Superintendent of Public Instruction
Helena

1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in General Science, Biology, Chemistry, Physics, and Physiography is being offered as a tentative program for the field of science in the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that the High School Principals and the Science Teachers send from time to time, as this course is used, suggestions for its improvement.

Grateful acknowledgment is made to Montana Educators and to the Science Committee, in particular, for their kindly cooperation with the State Department of Public Instruction in formulating the subject matter contained herein. Valuable assistance was obtained from courses of study of other states, especially those of Texas, Kansas, Iowa and Washington. Further valuable aid was rendered by a number of Publishing Companies in generously furnishing copies of their texts and reference books to the committee.

Special acknowledgment is given to William A. Chittick, Assistant High School Supervisor, who was in direct charge of curriculum construction for the secondary schools. Invaluable assistance was rendered by Alice A. Mattison and Ellen Nelson Colleran of the State Department of Public Instruction in putting the material in shape for the printer and in reading and correcting proof.

ELIZABETH IRELAND,
State Superintendent of Public Instruction.

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COURSES OF STUDY IN SCIENCE

PART ONE—GENERAL SUGGESTIONS

I. Introductory Statement

The natural science division of the high school courses of study submitted herewith consists of a reprint from the former science courses of study of the Physics and Biology outlines, a slight revision of the General Science outline, a very thorough revision of the Chemistry outline, and the addition of an outline in Physiography. In 1928 the Department of Public Instruction published a pamphlet containing courses of study in the four major fields of high school science. The printed supply of these pamphlets is exhausted. Since the present committee on revision felt the courses outlined three years ago had proved quite satisfactory, and since in most particulars these courses still represent the modern viewpoints of science teaching, it seemed unnecessary to rewrite the entire course.

All bibliographies have been checked over and revised. An attempt has been made to list the latest texts and those most commonly used in Montana. It is likely some good books have been omitted and that new ones will be constantly appearing which will be worthy of consideration.

Like other high school courses of study being published by the Department of Public Instruction in 1932, the science courses are offered as guides and plans especially for the younger teachers and those lacking experience in this field. It is not intended that they should interfere with the working out of new and valuable ideas by instructors and administrators who have made a special study of science instruction. If the courses result in the saving of valuable time and energy and the general improvement of instruction the efforts of the committee and the members of the staff of the state department will be well repaid.

II. Aims in the Study of Science

Of the seven major educational objectives enumerated by the N. E. A. Commission on the Reorganization of Secondary Education (1920), the following six are realizable in part through the study of science:

A. Health

Class study and discussion, from a scientific standpoint, of such topics as water supply, disposal of sewage, prevention of disease, right kind of exercise, importance of fresh air, good food, and sufficient sleep lead to more satisfactory personal hygiene and community sanitation

B. Worthy home membership

Our sciences have furnished many conveniences for our homes and our social life; science study should not only make us aware of the existence of these inventions, but should also acquaint us with facts regarding their operation and care

C. Vocation

The close relationship existing between scientific study and many forms of skilled labor and professional work needs only to be mentioned to be realized

D. Civic education

The role of science in promoting civic education is probably not so obvious; but there is opportunity for a much deeper appreciation on the part of our citizenship of the expert's value and importance to our national and world progress. A broader understanding of science will increase this appreciation.

E. Worthy use of leisure

Courses in general science, biology, geology, and astronomy have a vocational value for the lover of the out-of-doors, while physics and chemistry open up interests in radio, photography, and general laboratory experimentation to a degree unrealizable by one who does not have the scientific background

F. Ethical character

Finally, the laws of science should inculcate a fixed and unshakable reverence and respect for truth and justice; the ethical motive probably underlies science more strongly than any other school subject except literature

III. Administration Problems

A. General statement

In the latter part of the year 1920, the N. E. A. Commission on the Reorganization of Secondary Education published the report of the science committee. This committee, consisting of forty-seven members, more than half of them directly connected with secondary schools, issued its recommendations after over seven years of investigation and deliberation. The report has, naturally, had a far-reaching effect in stabilizing the science curricula of our high schools.

The science subjects recommended by the committee for large high schools allow, as one would expect, considerable variation in selection and sequence. For schools of medium and small size, the recommended selection is limited to general science for ninth grade, biological science for tenth grade, and chemistry and physics for eleventh and twelfth grades.

Since the large majority of Montana high schools are to be classified as of medium or small size, it is recommended here that the first four sciences introduced be general science, biology, chemistry, and physics. The sequence by high school grades may well be as given above; not infrequently, however, physics is given before chemistry; in small schools it is recommended that physics and chemistry be given to combined eleventh and twelfth grade classes and that these subjects be alternated by years. In large schools the science program will be enriched by the addition of courses in other science subjects, such as physiography and geology, and by differentiated or extended courses within the fields of biology, chemistry, and physics.

B. Units of credit

1. General statement

In discussing science units required for graduation, one enters a field of controversy and varied practice. Some schools demand the earning of a certain total amount of science credit without specifying in further detail; others require some definite science or sciences; still others, especially among the larger schools, make the requirement depend upon the curriculum which the student is pursuing.

Seldom is a high school found which does not require of every graduate that at least one unit of credit in science be included among the fifteen or sixteen presented for graduation. More frequently, in view of what is usually considered a reasonable college requirement, two units of credit in laboratory science are demanded for graduation in all except definitely vocational curriculums. In view of the importance of science study it is recommended that at least one, and preferably two, units of credit in science be required for graduation. Exception to this rule may be made with students completing home economics or agriculture curriculums; in such cases two units in these departments may be substituted for the regular science credits, although it is desirable even under these conditions that some study of the regular science subjects be pursued.

2. Recommendations of State Board of Education

The State Board of Education recommends that one or more units of credit in science be required of all students for graduation; however, if a student finds it impossible to secure the credit the State Board of Education would not deprive such student of his right to graduation. To make a more balanced program the State Board of Education deems it advisable that some science be required for graduation.

3. College entrance requirements

Whenever the student is quite sure that he is going to college, he should know the college entrance requirements set by university authorities. They are as follows:

> "Students entering after September 1, 1927, must offer three units of English, one of American history and government and at least two other units from each of three of the following groups: (a) mathematics: algebra, plain and solid geometry, trigonometry, general mathematics; (b) history and social science: Greek, Roman, medieval, modern or English history, civics, community civics, economics, sociology, citizenship, economic or industrial history; (c) laboratory science: physics, chemistry, botany, zoology, biology, physiology, agriculture, astronomy, geology, physiography, general science; (d) foreign languages." (From University of Montana Bulletin, May, 1931.)

4. Requirements set by local trustees

The local boards of trustees may, insofar as they do not conflict with the rules and regulations promulgated by the State Board of Education, make such rules and regulations as they may deem proper governing the qualifications for graduation.

Taking into consideration the information of the above paragraph local boards have made and do make the requirement of one or two units of credit in science for graduation.

C. Qualifications and training for teachers of science

While the standards of accrediting set up by the State Board of Education recommend that teachers of high school subjects be graduates, or the equivalent, of fully accredited four-year colleges or universities, and that the practice of teachers being assigned to teach subjects outside their major fields of preparation be discouraged, the State Department of Public Instruction further recommends that a teacher of science in secondary schools should have as a minimum preparation the following prerequisites:

1. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in science. If the teacher expects to teach chemistry, much of the thirty-five quarter hours should have been in that science; if the teacher expects to teach the minor sciences (general science and biology), much of his thirty-five quarter hours should have been in those sciences. The same holds true for teachers of physics and physiography. It is not to be supposed that because a teacher has qualified to teach general science and biology that he is also qualified to teach chemistry.
2. Some training in the teaching of laboratory sciences
3. Ability to adapt materials and methods to the varying needs of pupils. To do this, the teacher must know his subject thoroughly.
4. Ability to choose and organize science material for laboratory work. No teacher of science subjects should be dependent upon textbook suggestions only.
5. Professional contacts with organizations and movements looking toward reform and improvement in the teaching of science
6. A sympathetic understanding of the high school students' difficulties in the science subjects

D. Time for laboratory periods

The practice still followed in a few schools of offering certain sciences without special laboratory time should be discontinued. All natural science requires laboratory work for its successful teaching and, since much of this laboratory work cannot be completed successfully in a forty or forty-five minute period, the administrative device of assigning three recitation and two double laboratory periods each week to science subjects has been quite generally adopted. In the absence of suggestion regarding a better plan of operation, these time allotments have been stated as minimum time requirements in the standards for accrediting. In schools employing the lengthened period this requirement will be satisfied if not less than 280 minutes of classroom time are given each week to each science.

IV. Recitation and Laboratory Procedures

A. General statements

It is not necessary to suppose nor does it follow from what has been said about time allotment that recitation and laboratory, respectively, whether the school uses the hour period or the 45-minutes period, will occupy exactly three-sevenths and four-sevenths of the time given to science. Undoubtedly there are weeks in every science course when two double periods are not needed for experimental work: on the other hand, there are times when more than the allotted 160-180 minutes each week should be used.

The skillful instructor will not be bound by distinctions between recitation and laboratory, but will aim to keep these two parts of science study supplementary in material and concurrent in time. Demonstration experiments will occasionally consume part or all of a forty-five minute period; a double period may be used partly for recitation, and partly for laboratory; sometimes tests, field trips, or group reports with discussion may take up ninety minutes; when an experiment is concluded, as not infrequently happens, in less than ninety minutes, the remaining time of the period may profitably be given to supervised study.

The distinction between recitation and laboratory is unfortunate if it causes teachers unduly to anticipate, postpone, or neglect laboratory work for recitation or vice versa. The problem is that of securing class reaction to certain material. Explanations, illustrations, experimentation, demonstration, field trips, individual projects, reports, working of problems, and other activities may be necessary for adequate presentation. The instructor should determine the most advantageous distribution of time within the 280 or more minutes allotted to the science class each week; but he should not attempt to disarrange the school program by asking for a double period on a day when a single science period is scheduled; neither should he take upon himself authority to excuse his class to the study hall instead of personally supervising them for the full laboratory time on laboratory days.

Just as laboratory work should not be limited to two double periods a week, so it should not be confined to one or two rooms in the school building or to apparatus supplied and owned by the school. The practical science course uses the world or as much of it as is available for laboratory. Many of the practical applications of science may be brought to the classroom by the instructor and pupils; many of them may be studied as home projects by individual pupils; many are of such nature that the class must be brought to them. The alert instructor will continually be enlivening theoretical explanation with display of devices, appliances, and new inventions secured from the homes of pupils and the various shops about town. Almost every textbook gives suggestions for home projects; field trips for study of physiography of the neighborhood, plant life, animal life, electric power plant, pumping station, health office or hospital, fire station. Various manufacturing and industrial processes have values which should by no means be overlooked by science instructors.

B. Experiments

Of the experiments performed in the school building some will be carried on in the recitation room, others in the laboratory; some will come during single, others during double periods; some will be on the demonstration order, others will consist of individual or group work. There is an unfortunate tendency on the part of some science instructors to require almost no experiments in which the pupils themselves manipulate the apparatus. This criticism applies especially to courses in general science. Seeming justification for such neglect is found in the insufficiency of apparatus, the lack of dexterity on the part of pupils in handling apparatus, or the time-saving element with demonstration experiments. Experimentation has not as yet established definitely the relative values of laboratory demonstration and individual or small-group laboratory work. Under these conditions it is sound practice to vary the laboratory method, but certainly not to eliminate the pupil-performed experiment.

A laboratory experiment should be well planned in advance, should be carefully supervised while in progress, and should be written up before the pupils leave the room. The last mentioned practice will be found to have two advantages: the teacher is given opportunity for helping the pupil when aid is necessary; the pupil can secure help from no source without the teacher's knowledge. A practice very general among successful science teachers is never to allow the science notebooks to be taken from the science laboratory. Wherever drawers or laboratory lockers are provided, notebooks, pencils, pen and ink may be kept in the individual lockers at all times except when in use in the laboratory; if the instructor carries one or more master keys, the pupils will need no individual locker keys. Another method is to have the sheets on which the experiments are recorded dropped into a locked box; any sheet found incorrect is returned to the pupil for correction; if correct, it is kept by the instructor until the end of the semester or year.

C. Notebooks

At the beginning of the year the instructor's check of notebooks should be frequent, preferably after every experiment. Clearness and accuracy of statement together with neatness in form should be demanded at all times. As pupils become accustomed to the subject checks may be made at the close of every week or at the end of every two weeks. Pupils should be required to bring their notebooks up to date before each monthly or six-weeks' test.

1. Checking

There is no scheme known for appreciably lightening the work of checking notebooks; this is a type of drudgery to which the teacher commits himself when he decides to teach laboratory science. The labor connected with correcting any kind of written work may be reduced to a minimum by refusal to waste any time with checking slovenly or careless work. This plan also has other obvious and commendable features. If the science instructor will make clear to the pupils those points of uniformity on which he will insist and then will spend no time in correcting notebook sheets which are illegibly written or which otherwise do not meet his demands, he will save himself many hours of useless labor. One teacher in the state thus describes form requirements used in his classes:

> "By form I mean blocking out the work so that it looks neat; using a half-inch margin and keeping it straight; not writing close to drawings; writing on the lines; paragraphing; keeping columns of figures with the decimal points in a row—in short, making the work look as much as possible like a printed page."

Looseleaf notebooks have in general replaced bound ones. The combination notebook-manual is found not infrequently. The printed manual is objectionable when it attempts to do most of the work for the pupil, thus confining his activities to answering questions asked in the manual. Many teachers of experience prefer to prepare their own laboratory directions, permitting the use of unprinted sheets in a looseleaf notebook for the writing up of the experiments. Plain, ruled graph, and drawing papers are used as demanded by the nature of the various exercises. Artistry in the drawings is not necessary although it may be desirable. Ink should be used throughout except in drawings.

2. **Form in notebooks**

Some teachers require that all experiments be written up according to a certain outline. Such outlines usually group the laboratory activities around three or more main heads; such as:

a. Purpose, object, or problem
b. Materials, apparatus, chemicals, or reagents
c. Directions, procedure, method, tests, or manipulations
d. Results, computations, or observations
e. Conclusions

Other heads appearing in such outlines are studies, questions, equations, commercial uses. drawings, reports, and references. Many excellent teachers will use no set outline, preferring to have the pupil organize as well as write each of his notebook reports. This practice is not recommended to the inexperienced teacher. Whether or not pupils are required to have their notebook statements conform to an established outline, they should early be made acquainted with this logical order of procedure in reporting an experiment; especial stress should be laid upon the great importance of observations and conclusions as contrasted with description of materials necessary for the performance of an exercise.

3. **Directions to students**

The following directions copied from the blackboard of a science laboratory in the State indicate one teacher's methods of getting notebook results:

"Your notebook should contain a record of:

a. What you actually **do**
b. What you actually **observe**
c. What **conclusions** you draw from your own experimental facts

"Use simple straightforward English. Do not waste words.
"Do your own figuring in pencil in space provided
"Use ruler and stencil to draw apparatus and 'set-up'
"Corrections must be made before an experiment is accepted
"When an experiment is completed leave your apparatus in good condition. Report anything which seems to be out of adjustment."

V. Visual Instruction

It may be argued that visual instruction does not belong more especially to science than to other school subjects, but the fact remains that more progress and development in visual education materials have taken place in science that in other fields. To the picture collections and stereoscopic views of a few years ago we have added much expensive equipment of motion picture machines and of lanterns for projection of lantern slides, microscopic slides, and opaque objects.

The difficulty encountered some years ago in securing suitable films and slides has to considerable extent been overcome, although the expense of these materials continues to hinder the development of visual instruction. Introduction of this type of instruction has been obstructed also by handicaps and problems in connection with the darkening of the room, a process which frequently consumes valuable time, results sometimes in difficulties with discipline, and is usually objectionable from the standpoint of ventilation. Within the last few years there have been developed translucent screens for daylight use and lanterns for the projection of slides, films, and opaque objects on these screens. Transparent slides and films may be projected with entire success on the classroom blackboard if one or two of the shades near the front of the room is drawn.

Three companies whose work with projection apparatus has been widespread and progressive without being of unbalanced promotional flavor are Bausch and Lomb Optical Co., Rochester, New York; Eastman Kodak Co., Rochester, New York; and Spencer Lens Co., Buffalo, New York. In recent years a number of companies have entered the motion picture machine field.

Slides and films are obtainable from a wide variety of sources. The Department of Agriculture, War Department, Navy Department, and Bureau of Mines of the Interior Department have films and slides of scientific interest which may be borrowed at no charge except for transportation. U. S. Bureau of Education Bulletin No. 8, **Visual Education Departments in Educational Institutions**, 1924, indicates extension departments and larger individual school systems which have special visual education officers in charge; slides and films may be rented from some of these. The names of commercial producers, only incidentally interested in education, are known to everyone. The Society for Visual Education, 327 South LaSalle Street, Chicago, has for distribution films closely connected with various school subjects including science; their slides come in so-called picturols; the society is also distributor for Red Cross films and slides. The Keystone View Co., Meadville, Pennsylvania, has for years been a leader in the production of stereoscopic views and lantern slides. School supply and apparatus companies frequently carry films and slides on scientific subjects. Manufacturing and industrial plants issue advertising slides and films descriptive of methods of manufacture; a number of firms and corporations have prepared exhibits tracing the process of manufacture from raw material to finished product.

VI. The Classroom

The science classroom should be located near the laboratory; if two laboratories are provided the recitation room may well be placed between them. Heating, lighting, and ventilating conditions should not be inferior to and need not be different from those of other classrooms. It is preferable that the seats be raised in order that pupils may, without leaving their chairs, readily observe demonstrations carried on at the teacher's desk. The instructor's desk, which need not be expensive and can be made locally if desired, should have uprights for support of crossbars; in case pupils' desks are not raised it is advisable to have the instructor's desk so large that all pupils of the class can find room around it for unobstructed observation. Blackboard space should extend along the entire front of the room and as far back on the side walls as convenient. A science bulletin board and projection apparatus are so important as to be almost essential.

VII. The Laboratory

It is desirable that a separate laboratory be provided for each science. This situation is ideal but unattainable except in larger schools. In schools where it is necessary to provide two science laboratories it is recommended that a combination of general science and physics be made in one laboratory and of biology and chemistry in the other. The greater number of schools will have only one laboratory and quite frequently the laboratory will be used also as a recitation room. Whatever inconveniences may attend this latter situation one advantage results; namely, that in the union practically all reason for lack of concurrency between recitation and laboratory work has disappeared.

A. Location

The location of laboratories is usually determined at the time of construction of buildings; sometimes it may be possible to remodel and rearrange rooms. Laboratories should be well ventilated and lighted. Basement rooms are especially objectionable if they are less than half above ground. Where the laboratory is already housed in poorly lighted and inadequately ventilated basement rooms the situation may be considerably bettered by the enlargement of windows and the digging of light pits approximately three feet wide immediately outside the windows.

B. Lighting

The lighting of biology rooms is especially important in view of microscopic work which should be done; sunlight is desirable but not essential. Both biology and chemistry rooms should be unusually wlel-ventilated. Attempt at added ventilation through fume hoods is frequently made in chemistry laboratories; experience indicates. however, that a hood is of little value except with some kind of forced ventilation; open windows and a corner location are more important than fume hoods to the chemistry laboratory. The device of sprinkling ammonia on the floors will be found useful whenever the class is working with obnoxious gases.

C. Furniture

Many laboratory furniture and apparatus companies will furnish charts and suggestions for laboratory layouts; consequently, school officials contemplating the equipping of biology, physics, or chemistry laboratories, will do well to correspond with their favorite equipment firm. Since many of the ready-made plans for laboratory layouts take for granted that gas, electricity, water, and sewer connections are available, the following suggestions may prove of some value to schools not having these conveniences.

Tables of various types suited to the different sciences are for sale by school furniture and supply houses. Well-constructed home-made tables of soft wood are satisfactory if the tops are well put together of heavy material at least one and one-half inches thick. They should be kept in good condition by the application of acid-proof paint every three years; the acid-proof paints or dressings may, as desired, be bought or prepared locally. Chemistry and biology tables should supply a drawer and a small cupboard for each student. A minimum table space of 2½x1½ feet must be furnished each pupil. The small table accommodating only two pupils is much to be preferred over the large table; small schools find such equipment doubly advantageous since the laboratory can then be made more satisfactory for recitation purposes.

For seating the class, tablet armchairs or comfortable stools are preferred by most teachers. In general science and physics laboratories swinging stools may be fastened to the tables. Benches under the windows and against the walls are useful especially where no chairs are supplied.

D. Gas

Wherever gas is available there should be provided for every two pupils—preferably for every pupil—a Bunsen burner with two and one-half to three feet of rubber tubing. Where commercial gas is not available various substitutes may be introduced.

A gas-generating machine may be secured and the gas prepared at the school. These machines are usually of the acetylene or gasoline generating type. The Detmer Manufacturing Company, 2508-2520 Archer Avenue, Chicago, and the Acetylene Stove Manufacturing Company, 1265 West Second Street, Cleveland, supply acetylene gas-generating machines. Gasoline gas-generating machines may be obtained from Tirrill Gas Machine Lighting Company, 50 Church Street, New York City, and from Matthews Gas Machine Company, 6 East Lake Street, Chicago.

The cost of a gas machine may be prohibitive. In such cases compressed gas tubes may be purchased. Acetylene or prest-o-lite gas tanks may be secured through the local garage. The Northwestern Blau-Gas Company of Minneapolis and the Omaha Blau-Gas Company of Omaha will supply drums of blau-gas.

If no one of the three methods mentioned above for providing laboratory heat is practicable the final expedient is that of lamps. For general science four-ounce or larger alcohol lamps will be found sufficient. For chemistry and physics gasoline blast torches must be provided in addition. Small kerosene stoves or electric hot plates will be found useful in the laboratory.

E. Electricity

Much of the electricity needed in the laboratory is secured from batteries. Electrical machines and electric lighting, however, are best demonstrated on 110 volt circuits. Where possible both alternating and direct current electricity should be made available in the laboratory. Where commercial electric power cannot be secured storage batteries or dry cells should be substituted. A three-cell lead storage battery, a five-cell Edison storage battery, or a battery of four dry cells connected in series, will furnish current at about six volts. Under these circumstances motor and electric light apparatus operating on the lower voltages will have to be secured for electrical experiments in general science and physics.

F. Water supply in the laboratory

Where city water is not available it is recommended that the laboratory water supply be kept in an earthenware jar with faucet at bottom. Such jars are used for drinking water fountains in many of our schools; they are unsatisfactory as reservoirs for drinking water, but serve well as containers for laboratory water supply.

Each chemistry table should be provided with two sinks or with a drain running lengthwise down the middle to a sink at the end of the table. At least one sink is necessary for the biology laboratory. If no sewer connection is possible, earthenware jars may be substituted for sinks. Every laboratory should be provided with refuse pails with patent covers similar to those found in dental and medical offices.

G. Storage space

Provision must be made in the laboratory for the storage of apparatus. It is false economy to leave costly apparatus lying about to be broken, to deteriorate, and sometimes to be carried away. The separate stockroom with necessary shelves is the safest, least expensive, and most convenient storage place for laboratory apparatus. The built-in cabinet with glass doors is very acceptable; lacking that, the special cabinet with doors which can be locked is satisfactory. One school in the state displays the more elaborate pieces of apparatus in a show case bought from a merchant who went out of business. The laboratory may, according to the ideals of the instructor, be made a neat and orderly place, inspirational to pupils, teachers, and visitors, or it may degenerate into a junk shop.

H. Blackboard space

Not a great deal of blackboard space is needed in the laboratory but some should be provided. A blackboard in sections which can be raised and lowered is highly serviceable. An aquarium is so advantageous that it should not be omitted from the biology laboratory. Every laboratory should be equipped with such safety devices as a first-aid kit and one or more fire extinguishers. A bulletin board is useful. Apparatus such as wet and dry bulb thermometer, barometer, and the like may be placed in the room.

I. Inventory of apparatus

An inventory of apparatus and equipment in each laboratory should be prepared and kept up-to-date by check not less often than once each year; the check had best come toward the close of the semester or school year. The school budget should make provision for replacement of broken or obsolete apparatus and for growth of the laboratory from year to year by purchase of as much as possible of the additional material recommended in the apparatus lists found with individual science courses discussed later in these pages.

J. Equipment

Equipment for the laboratories should be ordered during the spring or summer for delivery before the opening of school in the autumn. It is usually advisable to order in standard lots; with chemicals it is frequently true that the extra work in breaking up standard packages materially increases the cost in laboratory supplies. The following firms do a specialized business; their catalogues should be kept on file in science laboratories.

Central Scientific Company, Chicago
  Apparatus for all secondary school sciences. Projection materials.

Chicago Apparatus Company, Chicago
  Agriculture, biology, chemistry, physics

C. H. Stoelting Company, Chicago
  Physiology and psychology. Projection materials. Charts and psychological tests.

Denoyer-Geppert Company, Chicago
  Biology. Projection materials. Charts and models.

Denver Fire Clay Company, Denver
  Chemistry

E. H. Sargent Company, Chicago
  Biology, chemistry, physics

E. H. Sheldon and Company, Muskegon, Michigan
  Laboratory furniture

General Biological Supply House, 761 E. 69th Place, Chicago
  Biology. Models, slides, instruments, microscopes. Preserved and live specimens.

Kewaunee Manufacturing Company, Kewaunee, Wisconsin
  Laboratory furniture

Kuy-Scheerer Corporation, 404-410 West 27th Street, New York
  Biology, physiology, hygiene, anatomy. Charts and models.

L. E. Knott Apparatus Company, Boston
Apparatus for all secondary school sciences. Projection materials. Science manuals.

Leonard Peterson and Company, Chicago
Laboratory furniture

W. M. Welch Manufacturing Company, Chicago
Apparatus for all secondary school sciences. Projection materials. Science manuals.

VIII. Bibliography

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Frank, How to Teach General Science. P. Blakiston's Son and Company, Philadelphia
Frank, Teaching First Year Chemistry. P. Blakiston's Son and Company, Philadelphia
Gruenberg, Manual of Suggestions for Teachers. Ginn and Company, Chicago
Lloyd and Bigelow, The Teaching of Biology in the Secondary Schools. Longmans, Green and Company, 443 Fourth Avenue, New York
Mann, The Teaching of Physics. The Macmillan Company, San Francisco
Odell, Traditional Examinations and New Type Tests. The Century Company, Chicago
Pieper and Beauchamp, Teachers Guide Book to General Science. Scott, Foresman and Company, Chicago
Ruch, The Improvement of the Written Examination. Scott, Foresman and Company, Chicago
Ruch and Stoddard, Tests and Measurements in High School Instruction. World Book Company, 2166 Prairie Avenue, Chicago
Rusk, How to Teach Physics. J. B. Lippincott Company, Chicago
Smith, Alexander and Hall, Teaching of Chemistry and Physics in the Secondary Schools. Longmans, Green and Company, 443 Fourth Avenue, New York
Smith, Teaching of Geography by Problems. Doubleday, Doran and Company, Garden City, New York
Smith and Wright, Tests and Measurements. Silver, Burdett and Company, Chicago
Sutherland, Teaching Geography. Scott, Foresman and Company, Chicago
Symonds, Measurement in Secondary Education. The Macmillan Company, San Francisco
Thirty-First Yearbook of the National Society for the Study of Education. Part I, A Program for the Teaching of Science. Public School Publishing Company, Bloomington, Illinois. 1932
Twiss, Principles of Science Teaching. The Macmillan Company, San Francisco
Trafton, The Teaching of Science. Houghton Mifflin Company, Boston

B. Magazines for teachers

The General Science Quarterly, Salem, Massachusetts
Journal of Chemical Education, Easton, Pennsylvania
School Science and Mathematics, Smith and Turton, Chicago
The Science Classroom, (Monthly) 225 W. 39th Street, New York

C. Magazines for pupils

Current Science, 40 South Third Street, Columbus, Ohio
National Geographic Magazine, National Geographic Society, Washington, D. C.
Nature Magazine, 1214 Sixteenth Street N. W., Washington, D. C.
Popular Mechanics, 6 North Michigan Avenue, Chicago
Popular Science Monthly, 225 W. 39th Street, New York
Scientific American (with supplement), 233 Broadway, New York

PART TWO—GENERAL SCIENCE

1. Introductory Statements

Experimentation with general science may be traced back to the closing years of the preceding century when in a few schools general courses of various types were introduced preliminary to study of the special sciences which had taken complete possession of the science program. Gathering force after 1910, the general science movement spread until today the enrollment in general science is twice that in any specialized science.

There is a tendency today to teach general science earlier in the school course than it was formerly taught. It is quite generally agreed that this subject should be taught not later than the ninth grade, but many schools are now teaching it in the eighth grade. The new Caldwell and Curtis text, entitled **Introduction to Science**, has simplified the vocabulary used in the text, confining it almost entirely to the five thousand words of greatest frequency as listed by Thorndike. New words are defined and marked, thus making the text understandable in the lower grades. Other texts likewise use a vocabulary that fits the pupils of the junior high school.

Many schools will do well to teach general science in the grades, but in the opinion of the committee revising this course, it may not be generally placed in the eighth grade for some time. In the first place, the buildings have neither sufficient space nor equipment for good laboratory work; and secondly, the elementary teachers do not have the academic preparation to teach the course as it should be taught. If this be true then general science will not be taught earlier than the ninth grade of the high school for some time to come; hence this suggestive course of study.

While general science has apparently, within the past few years, established itself as a part of the curriculum, the localized character and the youth of the subject have made impossible standardization such as is to be found with some of the other sciences taught in secondary schools. However, out of the discussions, trials, failures, and successes certain viewpoints regarding general science are appearing quite definitely:

A. The general science course must not be merely a tandem arrangement of other science courses. As the name implies, general science will draw from any and all sciences for its material; but attempts at giving physiography for a certain number of weeks, biology for another block of time, and so on, will, as demonstrated by experience, usually result in failure.

B. General science must not be specialized according to the interests of the instructor. It happens too frequently that the general science instructor has such an active interest in physics, chemistry, or some other science that the general science course takes on a strong resemblance to one or two specialized sciences.

C. The content of the general science course must be drawn from the life experiences of the pupils. Environment and interest should determine the selection of material; they may well influence the sequence of topics. The organization problem is rather one of making the transitions smooth than of developing a logical course.

D. While logical arrangement is not a necessary characteristic of general science courses, it has been found advisable to group the activities of the course around larger topics, such as air, water, electricity, and the like. Within these larger topics the sub-topics in many courses take the form of problems. A plan by which pupils at the beginning of the year vote upon or otherwise indicate science subjects in which they are interested is entirely workable. Those subjects which the vote indicates are of general interest can then be related to the proper topics. Subjects which logically cannot be grouped with larger topics need not be omitted; but they should not be allowed to break the unity of any larger topic.

E. Because of stress laid upon drawing subject material from the environment of the pupil there is ever present the temptation to include in general science courses topics which belong to the social studies field. It may be that future organization will approve this combination. The course outlined, however, does not contemplate a consolidation of science and social studies.

II. Specific Aims with General Science

The general relation of science to the objectives of secondary education has been discussed in Part I of this manual. Among the more immediate results which pupils should attain through general science courses may be mentioned the following:

A. Familiarity with the underlying principles of scientific method, especially as related to laboratory work. This objective includes manipulation of apparatus, use of correct names for scientific equipment, and the drawing of valid conclusions from experimental data.

B. The gathering of a considerable store of scientific information explanatory of environment and useful to health, vocation, and home membership

C. Sufficient acquaintance with the material of science to make possible intelligent choice among specialized sciences offered as electives later in the high school course

III. Plan of the State Course

It is evident that difficulties will be encountered in preparing a syllabus for a subject such as general science in which experimentation is rife and in which local environment and pupil interest play such predominant parts. In the following pages an attempt is made, however, to bring a degree of uniformity into general science courses without stifling individuality or smothering experimentation.

The general plan is that of making two-thirds of the course uniform in its activities and the remaining one-third differentiated. In the uniform part of the course are to be found materials which touch the lives of all pupils in Montana high schools. It is felt that some uniformity is desirable, especially in a state where transfer of pupils from one school to another is as frequent as it is in Montana. Opportunity for exercise of individuality and special interests is given in the twelve weeks assigned to the differentiated part of the course.

A. The uniform course

The subjects of the uniform course have been selected on the double basis of pupil interest and adult opinion. Investigations of pupil interests in science have been made at various times. An elaborate study of this nature formed one of the bases for selection of material for Washburne's Common Science. The November, 1921, issue of Monthly Guide for Science Teachers gives a list of topics indicated by pupils as being of especial interest. The Educational Research Bulletin of Ohio State University for January 9, 1924, describes a similar study carried on with eighth grade pupils of Columbus, Ohio. Results for these investigations have been studied carefully and have formed a real basis for selection of material in the uniform course.

No one will contend that pupil interest should form the only criterion by which the value of material should be judged. The explanation of some of the scientific phenomena asked about by pupils is so difficult as to make introduction in a ninth grade course inadvisable, so elaborate as to make satisfactory answer impossible in the limited time available, and so specialized as to turn general science from its "general" purpose. Then, too, there are many topics of science in which the pupil should be interested and in which frequently he is interested when he recognizes them as capable of scientific explanation.

Adult viewpoint on selection of material for the present course has been secured. General Science has been taught in high schools long enough to have passed through the experimental stage, and is becoming quite well standardized. True, there is difference of opinion regarding the relative importance of some of the units to be included in the course, also as to how early in the school program the subject should be taught. But a careful checking of courses of study of several states, and an examination of the latest and best textbooks on general science reveal a close agreement regarding what should be taught in this subject.

While there is some variation, most courses comprise about seventeen different topics and are decidedly similar. The amount of time given to each topic is not so definitely agreed upon. It is well that such is the case because it permits of a flexible course which can be adapted to the local situation.

Dr. F. D. Curtis, of the University of Michigan, has recently made a thorough and scientific study which is published as a monograph under the title, **A Synthesis and Evaluation of Subject-Matter Topics in General Science**, which attempts to evaluate eighteen different contributions to the organization of general science courses. This is a definite, worthwhile contribution to the study, and enables writers of courses and textbooks to be more definite in selecting the units which should form the basis of a course.

Much valuable guidance in the selection of material has been secured from the judgments, sometimes expressed, sometimes indicated, in course organization, of a considerable number of Montana general science teachers.

The subjects for recitation and laboratory experimentation selected on these bases for the uniform course are indicated in the following topics. Some minor changes are expected; no teacher should accept the course so literally as not to allow deviations where variation appears desirable. The order of topics here given is, for instance, not a necessary part of the plan; whether it is better to occupy the entire first twenty-four weeks with the uniform course or to distribute its material over the entire year is a question for local decision; pupil interest may, and very likely will, call for elaboration of some topics; teachers wishing to employ the problem method may wish to alter materially the treatment of subjects. Determination of policies affecting these and similar conditions is left to the judgment of the teacher and class. Recommendation regarding the uniform course is definite, however, in two particulars: first, the material of topics with sub-topics here outlined should under no circumstances be omitted; secondly, not much more nor much less than 60 single and 40 double periods should be given to the course here presented. If this time allotment is followed, four weeks of the twenty-four will remain for holidays, reviews, tests and examinations. More detailed suggestions regarding time allotments are to be found with each topic.

B. Textbooks

Each high school should adopt a good up-to-date general science textbook. Such textbooks are written by authors who are scientists and teachers, who have had opportunity to give the subject much study, and who have become authorities on general science. Teacher's manuals, workbooks, and tests are prepared to be used with the texts, and are very helpful. As no one textbook gives the best treatment of every topic in the subject, supplementary texts should be provided. These should be placed in the library and made accessible to the pupils. Many of the pupils who are especially interested will read them voluntarily, and the others can be encouraged to read them by giving frequent references in them or by asking for reports from them. The course of study should be checked frequently to see if any topics are being omitted.

C. Notebook

It is quite important that each pupil provide himself with a notebook. This may be either of the looseleaf kind or the workbook manual, but all pupils should get the same kind. The manual is splendid but need not be followed slavishly. It may be supplemented in many instances. Notebook work should be done in the class and the notebooks left in the science room. This makes it more convenient for the teacher to help or to check up on the pupils who need it, at the time the work is being done, and eliminates much of the tedious checking of notebooks at the end of the month. If notebooks are kept in the laboratory, as suggested, there is less likely to be wholesale copying from notebooks of the more industrious pupils. This procedure also keeps the notebooks up-to-date and allows a better arrangement of the instructor's work.

D. Laboratory periods

Double laboratory periods should be held twice each week, thus making seven class periods during the week. In those schools which have adopted the sixty-minute period, three laboratory periods a week will fulfill the state requirements given in the standards for accrediting. If it is not convenient to have the sixty-minute periods all day, one-half of the school day might be organized on the sixty-minute period basis and the laboratory sciences taught at that time.

E. Laboratory

A general science laboratory room with aquaria, good apparatus, and other physical materials, while not essential to good teaching, is helpful and stimulating. Many schools are including such rooms in their new buildings and others are remodeling old rooms. Where such a room is provided the pupils will take a real interest and pride in their work and will make much greater progress in those phases of science in which they have their major interest. Some will work with electric equipment, others with insects, and still others with some division of the course of particular interest to them. However, good work can be done with meager equipment, and much of the experimental work may be done by the teacher or by certain of the pupils as a class demonstration with excellent results. Oftentimes, the equipment used in the other sciences is sufficient, and little or no additional equipment need be purchased for the general science class.

F. Library

Good, interesting science books in the library may be of valuable assistance to the teacher of general science. Good books may often be selected from the bibliographies given in the best texts. Several science books which the pupils will enjoy should be purchased for the pupils to read, and should be placed in the library where they may be readily checked out. It is well to select as many science books as the school can afford of those best suited to the interests of the class, in order to encourage reading along these lines.

G. Scrapbook

J. O. Frank says of the scrapbook: "In some schools the pupils are encouraged by the general science teacher to prepare a scrapbook of clippings of science articles cut from the magazines and newspapers. These clippings are filed in the books under the various headings of air, electricity, the weather, etc., and soon provide a valuable source of materials for projects, special reports, and the like."

H. Teacher

General science is a desirable subject to teach if the teacher is interested in scientific subjects, and also in children. An inexperienced and disinterested teacher can not expect to get good results. In the teaching of general science, as in other freshmen subjects, the best teachers on the faculty should be enlisted. Teachers should be selected who are experienced, interested, and sympathetic enough to steady the freshmen through their most trying year in high school.

Material of the Uniform Course

A. The metric system (Two days)

Comparison of English and metric measurements.*

A. Our solar system (Five days)

Sun. Planets. Moons. Phases of the Moon.* Seasons. Different lengths of day and night. Eclipses. Stars and other solar systems. The principal constellations.* Stellar distances. The law of gravitation. The earth. Volcanoes, earthquakes, atmosphere, meteors.

C. Animal and plant life (Seven days)

Theory of evolution. Field trip for gathering of plant specimens.* Parts of plants and flowers.* Functions of the various parts. Cell structure.* Osmosis.* Preservation of plants from picnickers and "rare specimen" seekers. Adaptations of animals for food getting, for locomotion, for breathing, for protection, and for different surroundings. Helpful and harmful birds and animals. Cats versus birds. Preservation of birds and animals.

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*Items thus marked are suitable for laboratory work.

D. **Human health** (Ten days)

Care of teeth, eyes, and ears. Avoiding colds. Keeping well by exercise, fresh air, rest, sleep, cleanliness, and good food. Foods. Vitamins. Testing foods for carbohydrates, protein, and fat.* Preserving food by wrapping, heating, drying, canning, salting, cold storage.* Molds, yeast. Elementary study of useful and harmful bacteria. Development of bacteria under varying conditions.* Transmission of disease. Vaccination. Disinfectants. Sewage and garbage disposal.

E. **Fibers and their study**

Where fibers are obtained and how they are made into cloth: cotton, wool, silk, linen. Kinds of leather used for clothing and how prepared. How and where rubber is obtained. Use of clothing for protection and ornament. How color affects temperature. Choice of clothing. How to identify various clothing fibers.* Care of clothing. How stains are removed by solution, absorption, bleaching and neutralization. Life history and control of clothes moths.

F. **Soils** (Five days)

Breaking up of rock by action of glaciers, plants, and water. Kinds of soil found locally and moisture-retaining qualities of each.* Capillarity. Field trip for such study of erosion, sedimentation, drainage, and irrigation as is afforded by the locality.* Importance of forests.

G. **Water** (Seven days)

Displacement and buoyancy. Specific gravity. Use of specific gravity bottle and hydrometer.* Water seeking own level.* Springs. Wells. Simple siphon.* City water system. Visit to city water plant.* Water supply, rural and urban. Methods of purifying water.* Relation of pure water to good health.

H. **Air** (Seven days)

Reality of air.* Weight of air.* Aeroplane. Atmospheric pressure. Vacuums. Action of lift and force pumps.* The mercurial barometer. Altitude. Effect of pressure on boiling point.* Composition of air. Necessity of air for all plant and animal life.

I. **Matter** (Six days)

Elements, mixtures, compounds.* Physical and chemical change.* Properties and commercial uses of oxygen and carbon dioxide.* Elementary presentation of molecular theory. Acids and bases. Neutralization.*

J. **Fire** (Four days)

Oxidation. Burning. Explosions. Drafts. Gas, wood, and coal as fuel. Extinguishing fire with water. Quenching fire with chemical fire extinguisher.* (Perform this experiment in the open air.) Fire prevention.

K. **Heat** (Five days)

Heat requirements of living things. Conduction, convection, and radiation. Charting air currents and heat distribution from stove, fireplace, pipeless furnace, and radiators.* Fireless cooker.* Thermos bottle.* Stove, hot air furnace, hot water, steam heating, and gas systems. Efficiency of various types of heating systems. Study of school heating plant.*

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*Items thus marked are suitable for laboratory work.

L. Heat and volume (Four days)

Three states of matter. Ice, water, steam. Expansion and contraction of solids, liquids, and gases with varying temperatures. Principle of the thermometer. Calibration. Kinds of thermometers. Comparisons of Fahrenheit and Centigrade thermometers, with problems involving change from one reading to the other.*

M. Air and moisture (Five days)

Evaporation. Humidity. Saturation. Condensation. Relation of temperature and air pressure to evaporation and condensation.* Dew point. Clouds. Winds. Weather forecasting. Study of weather maps.* Manufacture of artificial ice. Refrigeration. Freezing of ice cream.

N. Adhesion and cohesion (One day)

Simple illustrative experiments.*

O. Sound (Three days)

Vibration and sound waves. Faintness of sound in a partial vacuum.* The eardrum. Velocity of sound echoes.

P. Light (Five days)

Reflection of light. The periscope.* Transparency. Velocity of light. Refraction by prisms.* The rainbow. Convex and concave lenses.* The retina and eye glasses. Kodak.* Microscope.* Telescope.* Energy derived from the sun directly and through plants. History of moving pictures. The mechanics of talking movies.

Q. Magnetism and electricity (Fifteen days)

Study and charting of magnetic field.* Compass. Static, galvanic, and dynamic electricity. Lightning. Dry cell. Storage battery. Electric circuit. Connecting dry cells and lights in series and parallel.* Electro-magnet.* Electric bell.* Telegraph.* Telephone. Principles underlying the use of the radio. Broadcasting stations. The receiving outfit. Buttons, switches, fuses, circuit breakers. Electric light. Elements of electric wiring.* Visit to local electric light plant. Explanation and demonstration of electric home appliances depending upon heat from current: flatiron, grill, toaster, curling iron, electric range, warming pad, etc.* Fundamental principle of induced currents.* Electric home conveniences depending upon motor: washing machine, electric sewing machine, electric refrigerator, vacuum cleaner, electric fan, etc.*

R. Simple machines (Three days)

Levers.* Fixed and movable pulleys.* Inclined plane.* Mechanical advantage. Foot pound.

S. Power developing machines applied to conveyances (Six days)

Steam engine. Four-cycle gasoline engine. Electric locomotive. The automobile: carburetor, timer and distributor, transmission gears, differential gears. Airplanes and dirigibles. Wright brothers. Comparison of airplane with bird. Archimedes' principle. Use of helium.

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*Items thus marked are suitable for laboratory work.

Material of the Differentiated Course

A. No syllabus attempted

Obviously, it is impossible to outline with any detail the topics of the differentiated course. Attempt to do so would defeat the purposes of differentiation. The topics selected and the treatment within topics should in this part of the course closely fit the conditions of the different schools and communities. Only general considerations for guidance can be given.

B. Treatment in detail

It is recommended that topics be treated much more in detail in the differentiated course than in the uniform course. The chief purpose in the uniform course has been to introduce briefly those manifestations of science which will inevitably touch the lives of all pupils. The purpose in the differentiated part of the course should be to cover with much more detail those phenomena of science which are characteristic of the local environment.

C. Types of courses suggested

Occasionally, it may be found advisable to elaborate one or more of the topics listed in the uniform course, but more generally the differentiated part of the course will concern itself with scientific factors underlying the industries of the people of a given region. Schools located in towns and cities along the Yellowstone and Milk rivers may well, with few exceptions, place the emphasis upon the scientific aspects of the growing of sugar beets and manufacture of sugar; as intensive a study as could be made in twelve weeks on the raising of wheat, corn, peas, apples, cattle, or sheep would seem to be appropriate to much of the plains region and some of our mountain valleys; hydroelectric power has enough scientific mysteries to keep classes interested and occupied in localities where water power is harnessed and electrified railroads operate; railroad shops and steam engineering offer opportunity for study in the twenty-odd railway division points of the state; twelve weeks is all too short a time to give to consideration of mining of coal and metallic ores, and smelting in mining regions; oil geology and oil refining call for study in some regions but not in every locality where wells have been spudded in; a number of towns in the western part of the state are supported almost solely by lumbering, and thus offer advantages for scientific study of trees, forestry, and fire prevention; the various industrial plants of the larger cities of the state furnish opportunity for study of a wide variety of industrial and manufacturing processes; geological phenomena can be studied profitably in all sections of the state; study of the lives and work of great scientists is vital and interesting for all classes.

IV. Field Trips

Field trips should form an essential part of the differentiated course. Since this part of the course deals especially with the material of environment, some of the most valuable illustrative and experimental equipment is to be found locally. Before taking pupils on a field trip the instructor should himself be familiar with and should acquaint pupils with material which is likely to be encountered. As an instance, the plan of explaining the process of manufacture in anticipation of a field trip to an industrial plant is highly commendable. It is well that pupils be required to write up their observations after their return from such a trip and some part of the science period of the following day should be reserved for questions and discussions regarding observations made. Unless field trips are carefully planned and reports on results required they are likely to degenerate into purposeless excursions which have little or no educational value. Whenever such a tendency becomes evident it would be better to send smaller committees of the class on field trips with responsibility for a detailed report to the entire group at some later time. The bringing of materials to the classroom is preferable to a field trip whenever this alternative is practicable.

V. Laboratory Apparatus

Laboratory apparatus needed is entirely dependent upon the activities of the course. In the following pages are given six lists of laboratory apparatus:

List A. Apparatus Necessary for Teaching the Uniform Course
List B. Necessary Chemicals
List C. Materials Which May Usually Be Borrowed or Secured by Donation Locally
List D. Substitutions Which May Be Made for Listed Apparatus
List E. Apparatus Which May Be Constructed
List F. Additional Desirable Apparatus

A seventh list should be added by individual schools, namely, a list of apparatus necessary for teaching the differentiated part of the course. Valuable factors such as type of course and amount of equipment locally available make it impracticable to prepare such a list for a state course of study.

List A—Apparatus Necessary for Teaching the Uniform Course

The apparatus of List A will be found sufficient for teaching the material of the uniform course provided alternation of experiments is carried out whenever possible. Occasionally a teacher may wish to arrive at a given laboratory result by an experiment somewhat different from the one here contemplated. Such variation in laboratory work will call for corresponding change in apparatus needed, but will not appreciably lower the cost of materials.

Some of the material may be bought locally; the greater part of the apparatus will have to be secured from a company dealing in laboratory apparatus. The cost of List A may be considerably decreased by making use of articles borrowed donated, substituted, or constructed. As previously mentioned, Lists B, C, and D enumerate such materials. If the local community is drawn upon for considerable of this equipment, the cost of apparatus for the differentiated course should not be prohibitive.

If more than one science is taught in the same laboratory it is not necessary to duplicate any of the items which are available for any of the other sciences included in this list, other than duplications for individual or group experiments.

Note: The number in the parentheses immediately following the description indicates the maximum number of pupils who may be served by the given amount of apparatus.

List A—General Apparatus

Quantity Recommended	Description	Approximate Price
1	**File,** triangular, 4″	$ .15
1	**One-Liter Measure** (4)	.75
1	**Measure,** liquid, tin, with lip, 1 qt. (4)	.25
1	**Meter Stick,** graduated to both mm and ⅛″ (4)	.35
3	**Lever Knife-Edge Clamps,** for meter stick (8)	1.05
2	**Triple Pulleys,** bakelite, each pulley 5 cm in diameter (8)	1.30
1	**Lift Pump,** working model of glass, 37 cm long	1.50
1	**Force Pump,** working model of glass, 37cm long (8)	1.50
1	**Hydrometer,** for light liquids, 30 cm long (8)	.70
1	**Specific Gravity Bottle,** capacity 25 cc (8)	.65
1	**Battery Jar,** 7″ high, 5″ diameter (4)	.65
1	**Barometer Tube With Stopcock,** or Boyle's Law Tube	2.50
1	**Vacuum Wax,** 4 oz. jar	.25
1	**Air Pump,** exhaust and compression	4.50
1	**Air Pump Plate,** lathe-turned surface, 21 cm diameter	6.00
1	**Bell Jar,** straight form, glass stoppered, 1 gal.	3.50
1	**Rubber Balloon,** large	.85
1	**Steam Engine Model,** locomotive type, large size, complete model	6.00
	or 1 No. 1772 Locomotive Chart, Midako type, 12″x40″	.40
1	**Soft Iron Rod,** round, 15x1.2 cm (4)	.15
1	**Bar Magnet,** rectangular, polished steel, 15x1.9x0.7 cm (2)	.35
1x1 lb	**Iron Metal Filings,** finely prepared	.25
1	**Magnetic Needle,** mounted, 15 cm long	.65
1	**Compass,** 25 mm diameter (4)	.25
4	**Dry Cells** (dry batteries), standard size, 1.5 volts, 25 amperes on short circuit	2.00
1	**Incandescent Lamp,** carbon filament, 110 volts, 16 candle power, 50 watts (8)	.40
1	**Telegraph Key**	2.75
1	**Telegraph Sounder,** Standard Commercial form, resistance 5 ohms	3.00
1	**Bell,** electric, diameter of bell 2½″ (8)	.75
1	**Push Button,** stamped metal, bronze finish (4)	.18
1	**Receptacle,** porcelain base (8)	.85
1	**Prism,** equilateral, 25x75 mm (2)	.75
1	**Balance,** Harvard trip, agate bearings, beam weights 10 g to 0.1 g, sensibility 5 cg	12.00
1	**Spring Balance,** double scale, capacity 64 oz. in 1 oz. divisions and 2000 g in 25 g divisions (8)	.85
1 set	**Weights,** brass, in wood block, 1 g to 500 g, including 1 g, (2) 2 g, 5 g, 10 g, (2) 20 g, 50 g, 100 g, (2) 200 g, and 500 g	5.25
1 set	**Weights,** Universal, with hooks, 10 g to 1 kg, including 10 g, (2) 20 g, 50 g, 100 g, (2) 200 g, 500 g, and 1 kg	3.75
1	**Condenser,** Liebig's, glass, 400 mm long	1.20
1	**Beaker,** Pyrex, with lip, capacity 400 cc (2) net	.30
1	**Bottle,** wide-mouth, size 4 oz. (2)	.15
1	**Bottle,** wide-mouth, size 8 oz. (2)	.20
1	**Bunsen Burner,** simple form (2)	.35
2	**Clamps,** burette, with rubber covered jaws	1.20
1	**Clamps,** screw compresser (4)	.25
1	**Clamps,** Stoddard's test tube (2)	.14
2	**Clamps,** Mohr's, brass, for burettes, 2¾″ (8)	.44
1 pkg.	**Corks,** quality XX, assorted, 1 gross, Nos. 0 to 11	.65
1	**Dish,** evaporating, Coors porcelain, No. 00A, capacity 70 cc (2) net	.12
1 pkg.	**Filter Paper,** 100 sheets, 10 cm diameter	.14
1	**Flask,** Pyrex, flat bottom, 500 cc capacity (4) net	.30
2	**Forceps,** steel, 5″ long (8)	.30
2	**Funnels,** glass, 100 mm diameter	1.00
1	**Funnel Tube,** thistle top, straight stem, 30 cm long (4)	.15
1	**Gauze,** iron wire, 20 mesh, 5″x5″ (2)	.10
1	**Glass Plate,** square, 4″x4″ (2)	.06
1 lb	**Glass Tubing,** outside diameter 6.5 mm (12)	.70
1	**Graduate,** cylindrical, graduated up and down, 100 cc by 1 cc	.80
3	**Rubber Stoppers,** 1-hole, 1 each Nos. 3, 5, 8 (4)	.40
3	**Rubber Stoppers,** 2-hole, 1 each Nos. 3, 5, 8 (4)	.40
3 ft.	**Rubber Tubing,** white, $\frac{3}{16}$″ diameter $\frac{3}{64}$″ wall (2)	.36
1	**Support,** ring stand, with 3 rings (4)	1.50
1	**Support,** test tube, 6 tube (4)	.60
12	**Test Tubes,** 6″x¾″ (4)	.35
1	**Thermometer,** engraved double scale, -10° to 110° C and 10° to 220° F, 12″ (8)	2.00
1	**Trough,** pneumatic, galvanized iron, inclined sides, with nest, 4″x7″x10″ (4)	.85

Quantity Recommended	Description	Approximate Price
12	**Chimneys,** student's lamp (4)	.35
1 ℔	**Annunciator Wire,** copper, D. C. C., No. 18	.70
1 spool	**Copper Magnet Wire,** No. 24, D. C. C. (4-oz. spool)	.55
10 ft.	**Fuse Wire,** 1 ampere	.10
10 ft.	**Fuse Wire,** 5 amperes	.20
8 ft.	**Gutta Percha Covered Copper Wire,** No. 14 (4)	.40
1	**Tripod Magnifier,** double lens, wide field	.80
1 env.	**Weather Maps,** 100 in env., 7¾"x9¾" net	.70
1	**Yard Stick,** hard maple (4) (b)	.15
1x4 oz.	**Nichrome Wire,** No. 24	1.75
	Copper Element, flat 12.5 cm by 2 cm	.10
	Zinz Element, flat 12.5 cm by 2 cm	.10
1	**Florence Flask,** 250 cc	.65
1	**Lens,** convex, 3.75 cm focal length 15 cm	.30
1	**Lens Holder** for meter stick	.12
1	**Magnet,** large U-shaped	.50
1	**Switch**	.35
1	**T-Tube**	.15
1	**Tuning Fork** (c)	.50
1	**Polished Metal Beaker,** 250 cc	.90
1	**Weather Map** (2) Procure from local office of Weather Bureau or from Weather Bureau, U. S. Dept. of Agriculture, Washington, D. C.	
	Total for General Apparatus	$91.01

List B—Necessary Chemicals

6 lbs.	**Acid Hydrochloric** Technical Concentrated
1 ℔	**Acid Nitric** Technical Concentrated
1 ℔	**Acid Sulphuric** Technical Concentrated
1 ℔	**Ammonium Hydroxide** Technical Concentrated
1 ℔	**Ammonium Nitrate** Pure Granular
1 ℔	**Calcium Carbonate** Marble Chips
1 ℔	**Carbon Tetrachloride** Pure
4 oz.	**Fehling's Solution A**
4 oz.	**Fehling's Solution B**
1 lb	**Iodine Solution** in Potassium Iodide and Water
1 ℔	**Limewater** (Calcium Hydroxide Solution)
1 ℔	**Mercury Metal** Virgin Grade (Quicksilver)
1 ℔	**Sodium Hydroxide** Technical Granular
1 ℔	**Sodium Peroxide** C. P. Powder
1 vial	**Test Paper** Litmus blue
1 vial	**Test Paper** Litmus red
8 oz.	**Alcohol** grain
8 oz.	**Ammonia** household (small bottle)
1 ℔	**Copper Sulphate** (blue vitriol)
¼ ℔	**Manganese Dioxide**
¼ ℔	**Potassium Chlorate**
	Various food stuffs containing carbohydrates, protein, and fat

List C—Materials Which May Usually Be Borrowed or Secured by Donation Locally

The gathering of materials available locally for the general science laboratory should not end with this list. A large number of articles of scientific interest will cheerfully be loaned or donated by stores, telephone offices, repair shops, garages, car owners, and homes. Pupils should be encouraged to bring articles from their homes. Not infrequently the most useful laboratory materials of this kind are those which have outlived their practical usefulness and consequently can be taken apart. Burnt out electric light bulbs can be used for demonstrating buoyancy and air pressure, empty varnish cans for air pressure and convection, broken thermos bottles for various methods of transmission of heat, a discarded electric fan motor for construction of motors, and so on. It is desirable that as soon as possible the science laboratory secure equipment of its own instead of borrowing articles from members of the community. However, the securing of articles by donation should not be discontinued.

Triangular Files
Yard Sticks
Quart Measures or Jars
Food Stuffs
Hydrometers
Old Kitchen Lift Pump
Alarm Clock
Microscope
Light Receptacles
Fuse Receptacles
Burnt Out Plugs
Burnt Out Electric Light Bulbs
Kerosene Lamp
Thermos Bottle
Vacuum Cleaner
Electric Sewing Machine
Electric Cake Beater
Electric Fan
Block and Tackle
Automobile Jack Screw
Automobile Engine Model
Spark Plugs
Carbureter
Timer Model
Automobile Ammeter
Transmission Gears Model
Differential Model
Vaseline
Fire Extinguisher
Telescope or Field Glasses
Reading Glasses
A Kodak
Storage Battery
Electric Bells
Telephone Transmitter
Telephone Receiver
Curling Iron
Warming Pad
Electric Toaster
Electric Grill
Percolator
Electric Iron
Candles
Wood Tapers
Empty Varnish Cans
Milk and Pickle Bottles
Wrapping Paper
Cord and Thread
Darning Needles
Knife
Scissors
Scientific Toys of Various Kinds
(Mechano, Erector, Chemocraft, The Gilbert Sets, St. John Sets, etc.)

List D—Substitutions Which May Be Made for Listed Apparatus

It must not be supposed that articles here listed are superior to those for which they may be substituted; quite the contrary is true as a general rule. The list of substitutions may, however, point a way for temporary relief of an understocked laboratory.

Apparatus	Substitute
Bunsen Burners	4 oz. Alcohol Lamps or Gasoline Blast lamps
Pyrex Beakers	Glass Tumblers
Gas Collecting Bottles	Milk or Pickle Bottles
Evaporating Dishes	Low Tin Pans or Tin Covers, 3½″ or more in diameter
Plate Glass	Window Glass
Battery Jars	Mason Jars
Pneumatic Trough	Baking Pan and Bricks
Rubber Balloon	Toy Balloon, Football or Basketball Bladder
Bar Magnets	Magnetized Files

List E—Apparatus Which May Be Constructed

A great deal of apparatus may be improvised by an ingenious instructor and his class. Such construction, however, is too frequently done at the expense of much valuable time which could have been put to better advantage had the apparatus been purchased. Another difficulty with improvised apparatus is that usually only one piece is constructed for the entire class; generally speaking, an experiment for which the apparatus is constructed becomes then and there a demonstration experiment. Exception to this statement is to be noted where the apparatus is quickly and easily made with such experiments as "Water Seeks its Own Level", the siphon, and the electromagnet. Some experiments such as osmosis and distillation of water for which apparatus is set up are quite properly, although by no means necessarily, of the demonstration type.

It is recommended that construction of apparatus be limited with infrequent exceptions to individual or small group project work. Constructing devices or models of them serves to acquaint the pupil with the underlying scientific principles; and if the pieces of apparatus thus constructed are preserved from year to year they soon make an interesting laboratory display which may be used for supplementing regular laboratory equipment.

Description of much improvised apparatus may be found in the various textbooks and in such books as Woodhull's "Home-Made Apparatus" (Barnes); Good's "Laboratory Projects in Physics" (Macmillan); Downing's "Field and Laboratory Guides in Biological and Physical Nature Study" (University of Chicago Press). "The Monthly Guide for Science Teachers" and its successor, "The Science Classroom" (Popular Science Monthly Publishing Company), have sections each month given to description of apparatus any pupil or teacher can make.

Among pieces of scientific apparatus which may be constructed with glass tubing, rubber tubing, T and U tubes, test tubes, wide mouth bottles or milk bottles, rubber stoppers of various kinds and sizes, lead shot, paraffin, some wooden boxes, etc., and a few tools are the following:

- Test Tube Racks
- Specific Gravity Bottle
- Hydrometer
- Stability Toys
- Cartesian Diver
- Lift Pump
- Self-starting Siphon
- Water Cooler
- Model of City Water System
- Model of Steam Heating System
- Model of Hot Water Heating System
- Air Thermometer
- Wet and Dry Bulb Thermometer
- Fire Extinguisher
- Convection Current Apparatus
- Fireless Cooker
- Iceless (Evaporating) Refrigerator
- Pin Hole Camera
- Periscope
- Electric Water Heater
- Telegraph Key
- Arc Light
- Various Kinds of Levers

List F—Additional Desirable Apparatus

The greater number of articles in List F may be borrowed from the laboratories provided for other sciences. In two-year high schools where general science is the only science subject taught List F should not be an object of concern until all apparatus of List A is secured. Even then the first purchases should be designed to add more pieces of each kind in order that work of the pupils may become more individualized. After the general science laboratory is so well supplied with equipment as to allow pupils to work by two's in nearly all experiments, the following equipment may be secured:

Quantity Recommended	Description	Approximate Price
1	**Metric Chart**, mounted on plain rollers, 25″x41″	$ 2.25
1	**Capillary Tubes Apparatus**, set of 7, mounted in frame	1.25
1	**Diffusion of Gases Apparatus**, double-bottle type	.60
1	**Osmose Apparatus**, simple form, including jar, clamp, and double-ended thistle tube with membrane	2.50
1	**Inclined Plane**, all metal form	7.75
1	**Universal Sun Dial**, unmounted, for use in 40° latitudes	6.50
1	**Syphon**, arms 20 cm and 30 cm long	.30
1	**Aneroid Barometer**, metric and English scales, for altitudes up to 3,500′ (for high altitudes a special barometer is needed)	10.00
1	**Bell-in-Vacuo**, with bell jar and suspended ball	4.50
1	**Air Thermometer Bulb**, 5 cm diameter, stem 30 cm long	.20
1	**Conductivity of Water Apparatus**, funnel 12 cm diameter	1.00
1	**Ball and Ring**, to show expansion due to heat	1.50
1	**Unequal Expansion Bar**, 30 cm long	.75
1	**Calorimeter**, drawn polished aluminum, 12.5 cm high, 7 cm diameter	.85
1	**Dipping Needle**, 8 cm, mounted with graduated arc	3.50
1	**Electrolysis Apparatus**, length over all 40 cm	5.00
1	**St. Louis Motor**, all metal base, spring clip magnet holders, flat adjustable copper brushes	3.50
1	**Electromagnet Attachment for St. Louis Motor**, essential for complete dynamo demonstrations	1.25
1	**Lamp-Board Rheostat**, without lamps	16.00
1	**Switch**, knife, double pole, single throw, 15 amps.	.55
1	**D'Arsonval Galvanometer**, all metal frame, tripod with leveling screws	6.25
1	**Volt-Ammeter**, D. C. full 5″ scale, range 10 volts and 10 amperes in 0.1 volt div.	18.00
1 set	**Demonstration Lenses**, 38 mm diameter, set of 6	1.75
1	**Sextant**, mounted, complete	8.50
1 set	**Cork Borers**, brass, set of 6	1.00

Quantity Recommended	Description	Approximate Price
1	**Graduate,** cone shape, metric and English graduations, 8 oz., 250 cc	1.50
1	**Sun Path Dial**	.40
1	**Washington School Collection of Rocks and Minerals,** including 20 rocks and 20 minerals, all labeled in compact display case, net	6.50
4	**Dishes,** petri, double culture dish, 80 mm diameter	2.00
1 set	**Microscope Slides,** for General Science, special set of 25..........net	8.50
1	**Microscope,** compound, 2 eyepieces, 2 objectives, double circular nosepiece, magnifications of 50, 100, 215, and 430 diameters	74.50
1 set	**W. & A. K. Johnston's Physiology Charts,** set of 8, with solid chart head and tripod stand	8.50
1	**Tellurian,** complete with manual	42.00
4 tubes	**Agar Culture Media**	1.60
	Total for Additional Desirable Apparatus	$250.75

VI. Bibliography

A. High school texts

Caldwell and Curtis, Introduction to Science. Ginn and Company, Chicago. With workbook and test book
Clement, Collister and Thurston, Our Surroundings. Iroquois Publishing Company, Syracuse, New York
Hessler, Junior Science. Benj. H. Sanborn and Company, Chicago
Hodgdon, Elementary General Science. Hinds, Hayden and Eldredge, Chicago
Hunter and Whitman, Problems in General Science. American Book Company, Chicago
Pieper and Beauchamp, Everyday Problems in Science. Scott, Foresman and Company, Chicago
Pulvermacher and Vosburgh, The World About Us. D. C. Heath and Company, Chicago
Regenstein and Teeters, General Science. Rand McNally and Company, Chicago
Trafton, Science of Home and Community. The Macmillan Company, San Francisco
Van Buskirk, Smith and Nourse, The Science of Everyday Life. Houghton Mifflin Company, Boston. With workbook and tests
Washburne, Common Science. World Book Company, Chicago
Wood and Carpenter, Our Environment: How We Use and Control It. Allyn and Bacon, San Francisco
Webb and Didcoct, Early Steps in Science. D. Appleton and Company, 35 West 32nd Street, New York

B. Tests

Test book to accompany Caldwell and Curtis, Introduction to Science. Ginn and Company, Chicago
Denver Public Schools. General Science Tests
Downing, Range of Information Tests in Science. University of Chicago Press, Chicago
Dvorak, General Science Tests. Public School Publishing Company, Bloomington, Illinois
Fitzwater's Science Examinations. P. Blakiston's Sons and Company, Inc., Philadelphia
Giles, Schmidt and Osburn, Wisconsin General Science Tests. Eau Claire Book and Stationery Company, Eau Claire, Wisconsin
Glenn and Gruenberg, Instructional Tests in General Science. World Book Company, Yonkers, New York. 1932
Powers, General Science Tests. Bureau of Publications, Teachers College, Columbia University, New York
Ruch and Popenoe, General Science Tests. World Book Company, Chicago
Toops, General Science Tests. Institute of Research, Columbia University, New York
Watson and Manley, Objective Tests in General Science. Allyn and Bacon, San Francisco
Wilson, Van Buskirk, and Smith, Objective Tests in General Science (to accompany Van Buskirk, Smith and Nourse, "The Science of Everyday Life") Houghton Mifflin Company, Boston

PART THREE—BIOLOGY

I. Fundamental Principles

The syllabus presented herewith is for biology only. There is, however, no intention of causing abandonment of botany, zoology, physiology, hygiene, and sanitation as high school sciences. The situation in state and nation at the present time is that biology has in the large majority of high schools displaced or rather absorbed these other sciences. Furthermore, those schools which continue teaching such special sciences usually have exceptionally well-qualified specialists as instructors in these subjects. For these and other reasons it is thought unnecessary to prepare state courses of study for them.

II. Objectives

The study of biology connects up very definitely with some of the N. E. A. objectives discussed in Part I of this course of study:

A. Health: Through analogy and direct application of principles learned, health as an objective finds realization more definitely in biological science than in any other school subject except physical education

B. Home membership and citizenship: It may be that home membership and good citizenship objectives are too greatly stressed in some general biology courses, but such topics as conservation of natural resources, protection of game and birds, eradication of plant and animal pests, and prevention of spread of contagious disease have a distinct home and citizenship flavor as well as a biological one

C. Leisure: Appreciation of nature through acquaintance with birds, flowers, trees, and numerous other forms of plant and animal life provides not only a means but also a motive for worthy employment of leisure time

D. Ethical character: Respect for life is a result of biology study directly assignable to the ethical character objective

III. Procedure

Biology probably more than any other science offers opportunity for the particular bent of the instructor or textbook to take a class on physical and mental excursions which are undoubtedly delightful and interesting, which may be made to appear most useful, but which are, nevertheless, by-paths and not main-traveled roads of science. So long as biology is classed as a natural science it seems to be the judgment of the best informed instructors that considerable observation and experimentation relating to animals and plants should be performed. The achievement of special aims with regard to economic values, social phases, appreciation of nature, agriculture, sex information, or even so important a subject as human hygiene should be related to and secure foundation in scientific knowledge of plants and animals. The biology course exists for the purpose of introducing pupils to fundamental biological phenomena; no matter how desirable the economic, social, appreciative, rural, sex, and hygiene viewpoints may appear, they must not be allowed to crowd out the natural science part of the course.

A. Study of living specimens

The very name **biology** suggests study of living, not dead, materials. In order to learn some of the facts regarding structure it is necessary to dissect, to cut cross-sections, to preserve in formaldehyde, and so on; more time should, however, be spent with living organisms than with dead ones.

The use of local and seasonal materials rather than specimens shipped from afar is one indication that the principle of working with living things is being followed. Autumn and spring study, especially, should concern itself with the out-of-doors. The biology instructor of more than average ability will not only be able to take his class on excursions without upsetting the school program or demoralizing discipline in his own and other classes, but will also instill into students an interest and fondness for spending time in the open, outside of school hours. Thus are brought to the biology recitation and laboratory many questions, observations, and specimens which otherwise would not be included.

Many of the materials to be studied, particularly during the winter months, should be developed in the biology laboratory. This requires some forward-looking planning on the part of the instructor; it means keeping things sprouting to take the places of others which have completed their cycles. Living specimens should be found in jars, boxes, flower pots, aquariums, and vivariums at all seasons of the year. By these and similar means the biology laboratory may be made a depository mainly for living things instead of for dead and pickled remains.

B. Microscopic work recommended

An elementary biology course should concern itself with macroscopic rather than with microscopic work. Entirely aside from the great expense of supplying the class with a considerable number of compound microscopes, it may be said that the time spent in teaching microscopical technique to the novice can, it seems, be put to better advantage in the first year of biology work. The need for use of compound microscopes is not very frequent in an elementary course, and practically may be met by microscopic demonstrations given from time to time by the instructor. Sometimes drawings and diagrams may be made to take the place of considerable microscopic work. Much microscopic work may be done with small magnifiers supplied to pupils.

C. Miscellaneous considerations

General recommendations regarding groups for experimentation, field trips, notebooks, reference books, visual instruction, projects, and sources of material are given in Part I of this manual. Following are brief comments on some of these same subjects as related to biology:

1. Laboratory groups

Much of the work, especially on structural phases, can be made individual in biology. When microscopic work is done, except with compound microscope demonstrations, not more than two pupils should work together. Special projects usually will enlist larger numbers in groups.

2. Field trips

Biology field trips should, whenever possible, follow class study. Give pupils in advance of the trip a list of what they are to find.

It is well to give points for success in finding specimens asked for and extra credit for discovery of pertinent material not listed. Pupils should be encouraged to make notes on where various plants and animal specimens are found and under what conditions they develop and flourish. Recognition of types and making of collections and drawings ought to be stressed on field trips. Following are field trips listed by members of the committee cooperating in producing this manual; more than one trip is advisable and necessary with some of the subjects listed:

a. Collection of specimens for laboratory study
b. Flowers
c. Insect homes and habits
d. Leaves and adaptations
e. Fruits and seeds
f. Trees and shrubs
g. Fungi and lichens
h. Life in a brook
i. Birds

3. **Notebooks**

Drawings are features of biology notebooks. To aid in this work pupils should be supplied with high quality drawing paper, with a 4H pencil, and with a pad of fine emery cloth for producing a sharp point on the pencil. Artistic ability is desirable but not necessary; artistically considered, tracing drawings in ink may be satisfying, but biologically contemplated, such application is a waste of time. Some uniform system of labeling is recommended. Drawings should be fairly large; considerable gain in clearness and neatness is made if compliance with this rule is insisted upon from the beginning. Above everything else, drawings must be accurate sketches of things seen; they should not be copies of other drawings from blackboard, chart, or textbook.

4. **Reference books**

In addition to reference books listed in Part I of this syllabus, reference is made to the **Library Manual for Montana High Schools**, for recommended books on biology, botany, and zoology. In ordering reference books it is well to bear in mind that money is much more profitably expended if a number of copies of the same book are secured than if a large variety of single copies is provided.

5. **Sources of material and special help**

The State Board of Health, State Capitol, Helena, will be glad to supply samples of blood, bacteria plates, and considerable literature relating to facts of health and disease, especially to social hygiene. The Department of Botany and Zoology at the State University, Missoula, offers special aid to high school biology classes in the matter of identifying specimens, advising regarding vocational opportunities in biology, giving addresses on botanical subjects, aiding in securing special materials for study and in such other ways as may be possible. The Department of Botany and Bacteriology, Montana State College, Bozeman, is ready to cooperate with high school biology departments; special mention should be made of Riker Mounts of weeds, stock poisoning plants, and plant diseases which will be loaned, provided high schools will pay transportation charges; additional help in presenting agricultural phases of biology may be secured from this source. Commercial companies dealing in biological supplies are listed in Part I.

IV. Content

The Uniform Course

The material of the uniform course here, as with general science, is expected to occupy two-thirds of the school year. The remaining third of the year is reserved for differentiation; consequently the general comments found under the headings **Plan of the State Course and Optional Features and Definite Recommendations** in Part II apply to biology with equal force.

The order of topics is suggestive merely and may be altered to suit conditions. Teachers who for good reason desire to follow some other sequence should not feel obliged to adhere to the order of topics here given. It must be borne in mind, however, that in Montana the spring season during the school session is quite restricted; consequently much material which in sections farther south may claim attention toward the close of the school year may in this state be studied to better advantage in the autumn. The only satisfactory alternative to such seasonal arrangement is to grow a great number of plants in the laboratory.

Material of the Uniform Course

A. Introduction (Four days)

A good introduction to biology consists in collecting specimens for the laboratory. Much of the plant material to be used later in the year can best be collected in the autumn and stored. Such animal specimens as are collected for later use and cannot be kept alive may be preserved in formaldehyde. Observation of the plants and animals in their natural environment and fresh state needs to be stressed at the time of collection and recalled when the forms are taken up later for detailed study. A beginning with observation and identification of birds and flowers should be made at this point. Brief study of aims and principles of biological study may be introduced if desired. In addition, review of physical and chemical changes as studied in general science forms a desirable starting point.

B. Flowers (Nine days)

1. Minimum topics

Parts of a flower and functions of each part. Adaptations of various kinds. Pollination. Training for recognition of individual flowers.

2. Discussion

A considerable variety of flowers should be secured from fields and gardens and studied structurally. Types should include: complete, perfect, composite, regular and irregular flowers. With such variations as the locality and the season may afford, selection is recommended from the following specimens; nasturtium, geranium, pansy, sweet pea, lily, mustard, apple blossom, tulip, cosmos, daisy, dandelion, wild aster, bull thistle. Have pupils place drawings of flowers and diagrams of parts in their notebooks. Study self-pollination and cross-pollination, adaptations of flowers for the protection and distribution of pollen, fertilization of the ovule. For laboratory study of germination, pollen grains may be sprouted in a weak sugar solution. Study of individual flowers, especially identification, should be carried on whenever feasible throughout the year.* Observation of spring flowers should under no conditions be omitted, regardless of the time of year when the more special study of flowers takes place. By the end of the year the pupils should be able to identify at least twenty different varieties of local flowers. The May, 1927, issue of the National Geographic Magazine contains excellent colored plates of Western flowers.

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*See topic No. XIII, "Birds" for a similar suggestion.

C. Insects (Ten days)

1. Minimum topics

Number and variety. Brief classification. Structure and functions of insect organs in general; special laboratory study of selected types. Economic values. Losses due to insects.

2. Discussion

Insects are most easily studied in the autumn or spring of the year; in the sequence here planned this study comes in early autumn. The break thus occasioned in logical study sequence of plants may be made less objectionable if pollination in flowers is taken up as the last subject in that topic and the part which insects play as distributors of pollen as the first subject treated in the present topic.

Encourage collection and classification outside of the school hours. Secure as large a collection of insects as can conveniently be kept in insect cages and terriums constructed by the pupils. At some time during the year observe the development of the fly in exposed meat, of the mosquito larva kept in glasses, of the caterpillar spinning his cocoon, and of as many other insects as possible. Pick some few types for special study. In Montana schools the grasshopper is probably most frequently selected for complete study in the laboratory. For variety and comparison it is advisable to introduce a special study of other insects or at least of certain parts of other insects; antennae and scales of moth and butterfly, legs of the bee, feet and wings of fly, and mosquito are illustrations in point.

The treatment of insect pests will vary with different localities. Aside from those species mentioned above, some of which are harmful, selection from the following list is suggested: Potato bug, army worm, wire worm, tent caterpillar, coddling moth, gypsy moth, chinch bug, tick, and cockroach. The good done by insects should be given some attention as should the destruction of injurious insects by other insects and by birds. Reports of the State Entomologist, Montana State College, Bozeman, should be studied in connection with this topic.

D. Leaves (Seven days)

1. Minimum topics

Structure. Transpiration. Photo-synthesis.

2. Discussion

Study gross structure of at least five different kinds of leaves. Give attention to veining and to simple, compound, and modified leaves. Have pupils introduce drawings of leaves in notebooks. A microscopic demonstration by the instructor showing stomata, palisade layer, spongy tissue, and structure of veins may follow; choose large, succulent leaves for demonstration. Experiments should be performed showing (1) loss of weight through transpiration, (2) presence of both sunlight and air necessary for manufacture of starch, (3) oxygen given off during the process of starch-making. Extract chlorophyll with alcohol. Explain the oxygen-carbon cycle. No experimentation is advised on manufacture of protein and oil by plants.

E. Stems (Five days)

1. **Minimum topics**

   Structure of mono- and dicotyledonous stems. Circulation in stems. Economic values.

2. **Discussion**

   Select at least one mono- and one dicotyledonous stem for study. Choose local specimens, such as weeds, corn, sunflower, trees, and vegetables. Study external appearance of dicotyledonous stems and both cross- and longitudinal sections of monocotyledons and dicotyledons. Further microscopic work on cells may be done at this point. Stress osmosis, capillary attraction, root pressure, and transpiration in relation to circulation. Trace course of a liquid up a stem by putting eosin in water and observing the rise of the colored liquid in roots, stems, and leaves of some plant. Have members of class list and identify local trees. Limit study of economic values to wood and potatoes.

F. Fruits and seeds (Seven days)

1. **Minimum topics**

   Structure of monocotyledons and dicotyledons. Germination. Influence of gravity, light, temperature, moisture, air, and soil upon growth. Adaptations for dispersal of seeds. Economic values.

2. **Discussion**

   Study, learn parts, and represent in four-inch drawings the structure of four or more dicots and monocots. The following (numerous variations may be introduced) are suggested as desirable for structural study: bean, pea, squash, corn, wheat, sunflower, castor bean, various kinds of garden and orchard fruit. Review general science work by testing seeds and fruits for nutrients. Plant seeds and study stages in germination. Plant radish seeds in sponge to show effects of gravity and moisture. Observe development of plants grown under varying conditions of light, temperature, air, moisture, and soil. Emphasize food storage and digestion. Treatment of economic values and adaptations for dispersal of seeds should be brief.

G. Roots (Five days)

1. **Minimum topics**

   Parts and functions of roots. Osmosis. Root cells. Economic values.

2. **Discussion**

   Grow roots from radish seeds or wheat by planting seeds in a pocket germinator, between pieces of wet blotting paper in a saucer, or in water soaked cotton. Give especial attention to primary root, root hairs, and root tips. At this point give compound microscope demonstration on cell structure and protoplasm. Protoplasm may be observed in the root tip of Wandering Jew. Bring observation of pupils to bear on some large roots of trees, corn, and vegetables. Study also roots of clover. Two experiments in osmosis should be performed: (1) egg osmosis; (2) osmosis demonstration with thistle tubes showing that a sugar solution will pass through animal or vegetable membranes whereas starch will not. Part of the study of osmosis will be review of work done in general science. The significance of osmosis in living things should be stressed. Give brief discussion to nutrients contained in roots and consequent economic values.

H. Fungi (Three days)

1. **Minimum topics**

   Molds. Yeast.

2. **Discussion**

   One or more microscopic demonstrations should be given by the instructor. Secure specimens from the household, the garden, the farm, and the forest. Grow bread mold and observe it in its various stages. Show the formation of carbon dioxide with yeast.

I. Bacteria (Seven days)

1. **Minimum topics**

   Sizes and shapes. Increase of bacteria under varying conditions. Bacteria and food. Bacteria and disease. Values of bacteria.

2. **Discussion**

   Review work done on this subject in general science. Prepare agar cultures and study results after inoculation with bacteria from teeth, pencil point, fly dust, hands, air in schoolroom, etc. Note also growth of bacteria colonies under varying conditions of temperature, light, and moisture. A microscopic demonstration of bacteria should be given by the instructor. Study bacteria in milk, broth, meat, and water which has been standing. Demonstrate preservation of foods. Counteract the idea that all bacteria are harmful by stressing values as well as losses from bacteria of decay and by indicating other valuable bacteria such as nitrogen-fixing bacteria; of over 600 bacteria types recorded about 60 are disease producers. Discuss transmission of "germ" diseases and prevention or control by immunization, sanitation, and disinfection.

J. Protozoa (Two days)

1. **Minimum topics**

   Paramecium. Protozoa as food. Protozoa and disease.

2. **Discussion**

   Prepare hay infusion and give microscopic demonstration of paramecium; stain with dye to make parts clearer. Observe reproduction by fission. Study also amoeba and vorticella if available. Discuss protozoa and disease and protozoa as food.

K. Fishes and frogs. Mammals. Relation to human biology (Thirty-five days)

1. **Minimum topics**

   Observation of live fishes and frogs. Life history of frog. Complete dissection of fish or frog. Relation of vital organs and life processes of fish, frog, and larger animals to those of human beings.

2. **Discussion**

   Aquaria are essential to study of this subject; simple ones may be constructed. Observe response to stimuli and methods of locomotion and breathing of both fish and frog. Some attention should be given to economic importance of fish and of the fish industry. A fish hatchery should be visited or, if this is impossible, description may be given by some member of the class who has visited one. The development of egg-tadpole-frog should be noted by direct observation in the laboratory.

Make full dissection of fish or frog; complementary dissection work on both may be substituted. It is usually necessary to purchase the specimens for such work. Considerable time should be given to this part of the course since the pupil should secure a fairly complete knowledge of the following systems and processes. Lay particular emphasis upon relation to human biology:

a. The alimentary canal—parts, enzymes, digestion, absorption. Perform experiment of changing starch into grape sugar by action of saliva or diastase. Lay especial stress upon corresponding organs and processes of the alimentary canal in human beings.

b. The nervous system—divisions and functions. Compare with cerebro-spinal systems (studied directly, through charts, or through textbook illustrations) of larger animals. Secure and dissect eye and ear of pig or some larger animal. Lead to study of structure and functions of parts in human nervous system.

c. The blood—characteristics and circulation. Test blood for nutrients. Show clot and use of fibrin. Give microscopic demonstration of fresh blood, but do not enter into much discussion of composition of blood. Observe circulation in tadpoles. Dissect heart of calf or some larger animal. Study from diagrams, charts, or textbook illustrations the circulatory system in human beings.

d. The respiratory system—organs and action of breathing. Frog's lungs may be used as a basis but some time, while this subject is under consideration, the lungs of some larger animal should be provided. These may usually be secured from the local butcher; they will remain fresh for one day. Demonstrate action of diaphragm and explain proper method of breathing. Indicate reasons for common diseases of the respiratory organs.

e. The skeleton—relate to human skeletal arrangement. In general, the study of human anatomy in elementary biology should be confined to such similarities as are brought out in studying lower animals. Probably the most valuable device for giving pupils a general idea of human anatomy is to have the class observe a butcher dissect a hog, sheep, or cow. By this means pupils will secure some real concept of size, location, and functions of vital organs together with understanding of by what means and how firmly these organs are kept in place. Special aids in the form of manikins, skeletons, and models are expensive but useful in teaching human and lower animal anatomy. Charts cost much less and will, with proper explanations, serve almost as well as models. Illustrations in supplementary textbooks, especially if made available to the whole class through a blackboard diagram or lantern projection, are valuable.

L. Hygiene (Seven days)

1. Minimum topics

How to remain healthy. Disorders and emergencies.

2. Discussion

Much of the theory of this part of the course will be review of matter studied in physiology and general science. Knowledge and practice of the laws of health should, however, not be taken for granted even at this time.

Hygiene of the mouth needs to be emphasized. The toothbrush habit is by no means universal, and the majority of our pupils probably do not know that the cheapest, least painful, and most effective method for preservation of teeth lies in going to the dentist regularly and with reasonable frequency. More detailed treatment of diet may be introduced here than in earlier courses. Have each pupil keep a record of his diet for a week; check on expense and balance of the diet for this week. Explain importance of exercise in throwing off bodily waste. Discuss biological as well as social importance of cleanliness. With hygiene of the skin may be introduced care of eye and ear. Importance and methods of ventilation need be given attention; too many of our pupils sleep with windows nearly, if not entirely, closed. A term paper on some topic of hygiene, such as, public sanitation, personal hygiene, values of different kinds of exercise, fatigue and rest, water supply, food contamination, ptomaines, pasteurization, food preservation, may be required.

It is not recommended that the biology course should take on the appearance of medical study, but some work on common bodily disorders and on important emergency measures should be introduced. Methods of caring for disorders of the food tract, curing of colds, and treatment of cuts, scratches, and burns need attention in the biology course. Boy Scouts will put on excellent demonstrations of tourniquets, resuscitation, and general first-aid work. All pupils should become acquainted with the use of materials contained in a first-aid cabinet. Some knowledge of simple home remedies is useful in emergencies.

M. Birds (Five days)

1. Minimum topics

Identification of local birds. Values of birds. Bird dangers and protection.

2. Discussion

Bird study should be carried on incidentally throughout the year, but especially during fall and spring migrations.

Study both resident and migrant types, their habits, appearance, and adaptations. The most interesting singers, game birds, and birds of prey should be included. The bird life in various Montana localities differs so widely that no list of birds for study is here given. By the end of the year the pupil should be able to recognize at least twenty types. As aids in identification, western bird guides such as those of Bailey and Reed are recommended. A. A. Saunders has issued one book and P. M. Silloway two treatises on Montana birds. Farmers' Bulletin 513 (1913) gives 56 colored plates of birds of farm and orchard; this bulletin may be secured for 15c from the Superintendent of Documents, Washington, D. C. Another important address in connection with material for bird-study is that of the National Association of Audubon Societies, 1974 Broadway, New York City.

Aesthetic and economic values of birds call for some attention. Economic value is probably best approached through discussion of the food of various birds. Many useful birds are killed by persons who believe them to be harmful.

Information needs be given also on how to protect birds from bad weather and from bird and other animal enemies, on how to preserve game birds from extermination by enforcing game laws and by establishing bird reserves, and on how to save birds from starvation by proper feeding during periods in the winter when food is not otherwise obtainable.

N. Variation and mutation (Four days)

1. **Minimum topics**

   The theory of evolution. Artificial selection.

2. **Discussion**

   Care should be exercised to deal with the theory of evolution as a theory. It is unwise and entirely unnecessary to insult those who, on account of religious beliefs or for other reasons, do not accept evolution. On the other hand, evolution is discussed so frequently and there is so much uninformed opinion about it that some information should be given in the biology course. The teacher will do well to keep his own ideas regarding evolution to himself and attempt to force neither acceptance nor rejection of the theory.

   The topic may well be introduced by discussions of adaptations to environment observed in nature and mentioned from time to time in the course. It is well to limit discussion to plants and lower forms of animal life. The various factors of use and disuse of organs, heredity, sudden mutations, and survival of the fittest should be presented as forms of the theory.

   In connection with natural selection some work on artificial selection such as selective planting and breeding, hybridizing, budding, and grafting should be introduced. Demonstrate budding and grafting in the laboratory; if the instructor is sufficiently skilled, actual budding and grafting should be done.

O. Generalizations and reviews

Determination of where to begin and stop with generalization is a constant organization problem. Few generalizations have been introduced up to this point in the course. Under this plan some rather vital subject matter may have been omitted. It is hoped that time may be saved toward the end of the course for generalization on at least some of the following topics. Thus will be secured review of specific topics together with presentation of material which did not fit in the regular outline.

1. Adaptations: The illustrations of adaptations in nature are legion. Among the many to be emphasized the following are of more than ordinary importance:
   - a. Adaptations of insects and flowers for pollination
   - b. Adaptations of various plants for seed dispersal
   - c. Mimicry and protective coloration in plants and animals
   - d. Adaptations of plants to soil and to climate conditions of moisture, temperature, and wind; leaf and root adaptations of hydrophytes and zerophytes
   - e. Adaptation and evolution
2. Cell structure in pollen, roots, seeds, stems, leaves, protozoa, bone, and muscle
3. Osmosis in roots, stems, and animal digestion
4. Nutrients in seeds, roots, stems, diet. This subject may also be included with digestion in animals and manufacture of food in plants.
5. Processes carried on by both plants and animals:
   - a. Digestion
   - b. Respiration
   - c. Circulation
   - d. Excretion
   - e. Reproduction

6. Brief work on classification; somewhat greater detail in dealing with birds and flowers

The Differentiated Course

About twelve weeks of the course are reserved for differentiation. The purpose with differentiating is to make provision for treatment of subjects of special interest or moment to the various classes studying biology. The following paragraphs, therefore; are to be viewed primarily as suggestive and illustrative of materials which may be included.

Elaboration of Topics of the Uniform Course

Differentiation may take the form of elaboration of topics dealt with in the uniform course. This type of development will probably be found most profitable with the following topics.

A. **Fruits and seeds** (Topic V)

Seed testing boxes may be prepared and scientific testing of seeds taught. Another field for study in certain sections is that of weed seeds and weeds—kinds, conditions of growth, dispersal of seed, economic losses due to weeds, weed elimination, and the like.

B. **Stems. Fungi** (Topics VII and VIII)

Everywhere in Montana, but especially in timber regions throughout the western part of the state, Topic VII (stems) very appropriately leads to detailed study of trees, wood, and forests. Work on ferns, mosses, and lichens may be annexed to tree study. Recognition of various kinds of trees and wood, values of forests, and preservation from destruction by fire, excessive cutting, and disease are important sub-topics. If blights and fungi harmful to trees are the last subjects treated, a logical transition is made to an elaboration of Topic VIII (fungi) which may be introduced by a study of rusts, smuts, and mildews.

C. **Bacteria. Protozoa** (Topics IX and X)

More detailed study of bacterial diseases (especially tuberculosis, pneumonia, diphtheria, and typhoid fever) and of common protozoan diseases (malaria, sleeping sickness, and smallpox) are well worth while. Defences of the body against the micro-organisms of disease and the theory of immunization may form the basis for pertinent discussions extending the work of the uniform course.

D. **Fishes and frogs. Mammals** (Topic XI)

Study of marine forms and of mammals had probably better be introduced with this topic if introduced at all.

E. **Hygiene** (Topic VII)

The evils of stimulants, narcotics, and drugs, and the uselessness or evil effects of most patent medicines may form the basis for consideration in an extension of this subject. Coffee, tea, tobacco, and alcohol have generally been accorded considerable time in earlier courses, but further treatment may well be given them. The increased consumption of drugs is arresting the attention of our social workers. Warnings are issued especially against morphine, heroin, and cocaine. In this connection drug addiction resulting from headache tablets and other patent medicines should be treated. Secure material from Narcotic Education Association, Pasadena, Calif., and from International Narcotic Society, Henry Building, Seattle, Wash.

F. Variation, mutation, and adaptation (Topic XIV)

Desirable additional work on these subjects coupled with heredity may be given. The work of Mendel, Burbank, members of the U. S. Department of Agriculture, and of other biologists dealing with artificial selection may be studied; some results of selective planting, building, slipping, and grafting may be demonstrated, especially if the instructor remains in the same school for a number of years; illustrations of selective breeding of domestic animals may be found in many communities; treatment of eugenics may be given if the instructor has the type of personality which will make this study effective.

The elaborations suggested above are in each case related to one or at most two topics of the uniform course and have for their purpose more detailed development of these topics. Those which follow comprise materials which really form separate major objectives of the course. Some of these materials may best be presented when a number of weeks is reserved for their exclusive consideration; others may be more effectively developed if spread over a longer period of time and allowed to permeate the course, being treated intermittently in connection with a variety of topics.

G. Appreciation of nature

This objective undoubtedly enters into consideration in every biology course. However, the amount of emphasis placed upon it varies greatly. If any marked results are to be obtained, this motive must be kept in mind throughout the course; it is not taught or learned in a few days.

Among biology subjects especially useful in developing appreciation of nature are flowers, trees, fish, birds, and wild life. Recognition of a considerable number of species and direct observation of characteristics and habits of individuals add greatly to interest and appreciation. One practical outcome of study of flowers and trees (shrubs and vines included) may be some landscape gardening about the schoolyard by the class. If the school is located near good trout streams, reports on habits of fish and on fishing laws may be given by enthusiastic fishermen among the pupils; care must be taken that this part of the course does not degenerate into a mere swapping of fish stories. The songs, plumage, and habits of birds form absorbing studies. Every locality has interesting species of wild life. Practically every section of the state will justify study of one or more types of game and necessary protective measures. Many pupils enjoy keeping "hobby books" on some one subject selected from a list; such as, flowers, house plants, birds, dogs, trees, horses, etc.

H. Economic values

This objective may be stressed with every topic treated in the biology course. Effort has been made to keep economic discussions in the background in the uniform course; some further treatment may be desirable. Care should be exercised in this matter; in some biology courses economic values lie like an incubus over every activity.

I. Agriculture

In an agricultural region this subject forms a practical extension to the uniform course. It may be treated in a separate block of time or in conjunction with the various topics of the course. In biology the study of agriculture probably connects most appropriately with plants, roots, stems, leaves, seeds, and fruits. In addition, poultry and livestock studies may be included with work on birds and mammals. In some courses special study is given to some particular local crop or to certain phases of agriculture, such as crop rotation, irrigation, summer fallowing, dry land farming, and other farming methods of especial concern to the community.

J. Great biologists

The study of famous biologists may be taken up at the time when the important discoveries of each are being discussed by the class; or a certain number of successive periods may be assigned to the subject; or periodic reports may be required of individual members of the class. The following lists of names are recommended:*

List A

Agassiz
Darwin
Harvey
Huxley
Jenner
Koch
Pasteur

List B

Audubon
Burbank
De Vries
Howard
Leeuwenhoek
Linnaeus
Lister
Mendel
Metchnikoff
Priestley
Spencer
Wallace
Weissman

K. Sex education

Some instructors regard the giving to pupils of a normal, healthy idea of sex one of the principal objectives of the biology course. The importance of this objective and the appropriate character of the biology course for teaching facts of sex will probably go unchallenged among teachers. Every parent will applaud good results achieved in this field. The only limiting factor is the personality of the teacher; better no sex facts than a knowledge which, on account of the way in which it is presented, the pupil will use irreverently, flippantly, or even immorally.

The uniform course presented in these pages includes some work on reproduction and associated subjects in connection with the study of seeds, cells, and flowers; further facts of reproduction and sex may readily be related to work with bacteria, protozoa, insects, fishes and frogs, birds, and heredity.

If more detailed treatment of reproduction is contemplated, it had probably better be given as a separate topic. Work may include a sexual reproduction by fission, budding, grafting, growing from cuttings and spores. Illustrative material for laboratory study may concern cell life, bacteria, protozoa, ferns, yeast, and trees. Sexual reproduction may be followed from (1) conjugation in spirogyra, through (2) fertilization in flowers and eggs of birds, to (3) development of young in mammals.

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*These lists of names of famous biologists have been secured through examination of the available biology textbooks. More elaborate treatment than mere mention of a scientist's name in connection with some law or process has formed the criterion for inclusion in the lists. The name of no person has been included in List A unless more than passing mention has been accorded in at least four of the texts examined; names in List B have been included by two or more textbook authors.

No further study of reproduction or sex is recommended for mixed classes. If the sexes have been segregated throughout the course, additional work may be given. The method of segregating classes for certain lessons is too pointed and is not advised. In these cases physical training classes had better be used for any further sex information which may be attempted. More advanced sex education needs to be carried on only by those who are able to present the materials in a dignified and effective way. Occasionally the biology instructor is the one to do this; sometimes physical education teachers, men and women, explain sex matters to boys and girls, respectively; frequently people in the community (ministers, doctors, nurses) are called upon to appear before classes. Unless they are known to possess ability to make a valuable presentation persons should not be asked to do this work; no one should be urged if he is reluctant to appear.

Topics treated may be varied but the following are recommended for inclusion: emotional and bodily changes at adolescence, menstruation (girls' classes), seminal emissions (in boys' classes), the fallacy of sex necessity, principal venereal diseases. Excellent opportunity is offered in these lectures to build up ideals regarding sex. High school boys and girls will respond to discussions of chivalry, responsibility, control, the future of the race, choice of mates, and the like, if properly presented.

The State Board of Health has a considerable number of social hygiene pamphlets for free distribution to teachers. **Keeping Fit** and **Youth and Life** exhibits also are available. The most valuable reference for the teacher is **High Schools and Sex Education** (1922); this book may be secured from the U. S. Public Health Service.

V. Laboratory Apparatus

The laboratories of other sciences, especially of general science, may be called upon to furnish the following materials for biology study: Bunsen burners or alcohol lamps, thermometers, beakers, glass tubing, rubber stoppers, test tubes, test tube holders and racks, ring stands, clamps, thistle tubes, bell jar, graduates, funnels, and chemicals needed for testing foods. If these pieces of apparatus are not available from other science laboratories, they should be purchased for the biology laboratory. Apparatus List A of the General Science Course will indicate kind, size, and amount of each.

Additional Apparatus Needed

The following list indicates first purchases to be made for the uniform course. It will be understood that supplemental apparatus for the differentiated course is to be secured.

Note: The number in the parentheses immediately following the description indicates the maximum number of pupils who may be served by the given amount of apparatus.

Quantity Recommended	Description	Approximate Price
1	**Dissecting Microscope,** Barnes type (2)	$ 3.50
72	**Microscopic Slides,** blank, glass, 25x75 mm	1.15
½ oz.	**Cover Glasses,** round, No. 2, diameter 18 mm	.90
1	**Forceps,** fine, straight, sharp points, lengths 4⅜" (2)	.17
1	**Section Razor,** both sides flat, for making microscopic sections	2.00
1	**Dissecting Set,** including scalpel, forceps, scissors, two dissecting needles, and 6" ruler, in leatherette case	1.75
1	**Breeding Cage,** all metal, folding, 12"x12"x16"	4.75
1	**Aquarium,** globe shape, capacity 3 gal.	2.50
1	**Insect Killing Bottle,** cyanide prepared, capacity 8 oz.	.40

Quantity Recommended	Description	Approximate Price
12	**Dishes,** petri, double culture dish, 80 mm diameter	6.00
1 set	**Microscopic Slides,** for Biology, set of 25 net	8.50
1	**Insect Spreading Board,** adjustable for all size insects, length 13" (4)	1.00
1	**Microscope,** compound, 2 eyepieces, 2 objectives. double circular nosepiece, magnifications of 50, 100, 215, and 430 diameters	74.50
	Small Germinators Plant Boxes Flower Pots } May be constructed by pupils	
	Total for Additional Apparatus	$107.12

Chemicals

1 ℔	**Acid Acetic** C. P. 99.5% (Glacial)
1 lb	**Acid Hydrochloric** Technical Concentrated
1 ℔	**Acid Nitric** Technical Concentrated
4 oz.	**Agar Agar** Shreds
1 oz.	**Albumen** Egg Scales
1 qt.	**Alcohol Ethyl** Denatured 95%
1 ℔	**Aluminum Potassium** Sulphate Technical Crystals
1 ℔	**Ammonium Hydroxide** Technical Concentrated
2 oz.	**Beef Extract**
1 ℔	**Calcium Carbonate** Marble Chips
4 oz.	**Calcium Phosphate** Dibasic Precipitated
1 ℔	**Carbon Bisulphide** Pure
4 oz.	**Chloroform** U. S. P.
4 oz.	**Chromium Potassium** Sulphate Pure Lumps
1 ℔	**Copper (ic) Sulphate** Technical Crystals
1 ℔	**Cotton** Absorbent
1 ℔	**Dextrose** Pure Granular
1 oz.	**Diatase of Malt** U. S. P.
4 oz.	**Ether Sulphuric** U. S. P. X.
4 oz.	**Fehling's Solution A**
4 oz.	**Fehling's Solution B**
1 ℔	**Formaldehyde** U. S. P. 40% Solution
1 oz.	**Iodine** U. S. P. Resublimed
4 oz.	**Iron (ic) Choride** U. S. P.
1 ℔	**Manganese Dioxide** Native Powder
1 oz.	**Pancreatin** U. S. P.
1 ℔	**Paraffin** Solid
1 oz.	**Pepsin** U. S. P. Powder
1 oz.	**Phenolphthalein** U. S. P.
1 oz.	**Phosphorus** Yellow Sticks
4 oz.	**Potassium Chlorate** U. S. P. Crystals
1 oz.	**Potassium Iodide** C. P.
1 ℔	**Sodium Chloride** Fine White
4 oz.	**Sodium Hydroxide** C. P. Sticks
1 ℔	**Sodium Hyposulphite** Pea Size Crystals
1 ℔	**Sodium Nitrate** Pure Crystals
1 pt.	**Sodium Silicate** Solution 40° Be. Technical
4 oz.	**Starch Arrowroot**
1 ℔	**Sulphur** Flowers Sublimed
1 vial	**Test Paper** Litmus Blue
1 vial	**Test Paper** Litmus Red
1 ℔	**Zinc Metal** Technical Mossy

Additional Recommended Apparatus

Additional apparatus should be purchased from year to year to make the biology laboratory equipment more complete. A greater number of microscopic slides than indicated above is desirable. As financial conditions warrant, it is recommended that some provision for visual instruction be made through supplying lantern slides and means of projection. In some schools the beginnings of a natural science museum have been made. Charts are very valuable in biology teaching; models are more useful but also more expensive than charts.

Quantity Recommended	Description	Approximate Price
1	**Binocular,** bird or nature study glass, wide field, with shoulder strap and case	$ 8.00
1	**Balance,** Harvard Trip, agate bearings, beam weights 10 g to 0.1 g, sensibility 5 cg	12.00
1 set	**Weights,** brass in wood block, 1 g to 1000 g, including 1 g, (2) 2 g, 5 g, 10 g, 100 g, (2) 200 g, 500 g, and 1000 g	8.75

Quantity Recommended	Description	Approximate Price
1	**Funnel,** glass, 90 mm diameter	.36
1	**Graduate,** cylindrical, graduated up and down, 100 cc by 1 cc	.80
1	**Graduate,** cylindrical, graduated up and down, 250 cc by 2 cc	1.25
1	**Graduate,** cylindrical, graduated up and down, 500 cc by 5 cc	1.60
1	**Lamp,** alcohol, round, glass, 4 oz. (If gas is available specify: 1 Bunsen Burner, new form, with needle valve gas control, $.65; 3 ft. Rubber Tubing, white, ¼" diameter, 1/16" wall, $.42)	.55
12	**Pipettes,** with rubber bulbs (medicine droppers)	.30
1	**Thermometer,** engraved double scale, -10° to 110° C and 10° to 220° F, length 12"	2.00
1	**Demonstration Eyepiece with pointer.** Instructor and pupil may view object at the same time	45.00
1	**Plant Press,** with six sheets absorption paper, 12"x16"	3.50
1 pkg.	**Insect Pins,** for mounting insects, 100 per pkg., size No. 3	.25
1	**Aquarium,** aluminum frame, slate bottom, 12 gal., 20½"x13"x13"	17.50
1	**Specimen Mount,** 5"x6"	.28
1	**Specimen Mount,** 8"x12"	.50
1	**Sterilizer, Arnold's,** steam, 11½" high, 10½" diameter	14.00
1 set	**Microscopic Slides,** for Biology, special set of 25 ... net	8.50
1	**Anatomical Model of the Human Heart** ... net	15.25
1	**Anatomical Model of the Human Eye** ... net	10.00
1	**Anatomical Model of Human Ear** ... net	12.75
1	**Anatomical Model of the Human Lungs** ... net	5.25
1	**Anatomical Model of the Human Trunk** ... net	34.00
1 set	**W. & A. K. Johnston's Physiology and Anatomy Charts,** on solid chart head and tripod stand, with manual, 8 in set ... net	8.50
	Total for Additional Recommended Apparatus	$210.89

VI. Bibliography

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Meier, Essentials of Biology. Ginn and Company, Chicago
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Pieper, Beauchamp and Frank, Everyday Problems in Biology. Scott, Foresman and Company, Chicago
Smallwood and Others, New General Biology. Allyn and Bacon, San Francisco

C. Tests

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Cooprider, Information Exercises in Biology. Public School Publishing Company, Bloomington, Illinois
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PART FOUR—CHEMISTRY

I. Aims

The six aims mentioned in the General Introduction should in some measure be realized through a study of chemistry. Since the chemical industries now occupy a commanding position among the industries of the world, some knowledge of chemistry is essential in a general education. The high school chemistry course attempts to meet the demand for elementary chemical knowledge and to provide pupils with a foundation for further study.

II. Administrative Problems

It is now usually conceded that chemistry should be given in the senior year. Where classes are small, chemistry and physics should be alternated in the senior and junior years.

Large high schools, which have four or five classes in chemistry each year can segregate the pupils into classes according to the needs of the pupils; i.e., for the students who desire to specialize in Home Economics the emphasis should be on the chemistry of household arts, and for the students specializing in agriculture or vocations, the emphasis may be on the chemistry of industry. Much of this emphasis may be secured in the Differentiated Course that is provided for in this outline. For those students, who will not pursue science courses in the higher fields, the chemistry course should provide a background of scientific knowledge showing the relationship between science and industry and between science and our social institutions and culture. This knowledge may be secured through surveys with sufficient specialization to satisfy the needs and interests of students and the requirements of the course of study.

III. Selection of Material

Judging from the common high school texts, there is a great divergence of opinion among authors concerning the essentials of the high school chemistry course. Some would make the course agricultural; others would make it biological, with strong emphasis on foods, digestion and health; others consider metallurgy worthy of the greatest stress; some fill their texts with new ideas of questionable value, seeking the spectacular; others emphasize theory and mathematics; while still others make of it a simple reading course in chemical industry. Teachers must not stress one phase of chemistry so strongly that other phases, including material of equal value or essential material, cannot receive the proper attention because of lack of time.

There are certain essentials in chemistry that must not be omitted. For instance: the elementary principles of metallurgy, electrolysis and ionization cannot be ignored. A text that omits nearly all the theory, mathematics, and formula work and makes of high school chemistry a reading course that any seventh or eighth grade boy can handle (with a little laboratory work for amusement) should not have a high standing with any real teacher. Moreover a teacher, who willfully culls out all the difficult material from a good text, denaturing the course to enable himself to "get by", cannot claim to be much of a teacher. The chemistry course should be based on the working capacity and ability of the average student and not on the capacity or ability of the dullest pupil in the class. If chemistry is to be justified in the high school course, results must be obtained commensurate with the intelligence of the pupils instructed.

As far as possible, the economic and industrial aspects of chemistry should be stressed, particularly when they involve industries, or probable industries, of Montana.

It seems to be the general opinion that metallurgy has been stressed too much and organic chemistry too little. This outline, therefore, covers the metallurgy of iron, copper and aluminum as fully as usual, but the metallurgy of the other heavy metals has been cut considerably. The time thus gained should be given to the four sections of organic chemistry.

A. The outline

The course as outlined covers the material found in our best high school texts. In making the outline, ten of the best texts were used. In a few places topics will be found which are not quoted in high school texts. These topics were inserted because of their importance. The material for most of them can be easily found.

The time allowed is for class work only. It is the maximum time that can be spent on each section unless some other section is cut accordingly. The time allowed is for the required and advised material, but not for the optional. The optional topics may be omitted. With the exception of one or two sections, a generous amount of time has been allowed. It will be noticed that the advised work covers most of the topics usually given for special study. A ten-months' school can cover practically all of the required and advised material. A nine-months' school will have to cut down on the advised material. If entire sections are to be cut out, Section 18, 35, or 38 should be omitted. It would seem better, however, to omit parts rather than entire sections. In a large number of sections a half day can be saved from the time allowed, but a few sections may require a half a day more than the allotted time.

If time permits, some consideration should be given to the optional material in Section 21. Much of this material can be found scattered through the ordinary text but some of it will have to be obtained from reference books. In this topic are some valuable connecting links between chemistry, physics and astronomy.

We often hear of the wonderful training which the study of foreign language gives a pupil. There is no doubt that great value comes from some phases of such study. Memorizing vocabularies, selecting the proper endings for words, and quickly determining the meaning of written or spoken words, constitutes the greater part of the work. Formula work in chemistry gives exactly the same kind of mental drill. In formula work some memorizing cannot be avoided. Most of it is training in rapidly writing compounds from spoken or written words differing slightly in their endings. Moreover, pupils are never confident of themselves in chemistry until they have a good knowledge of formulas. Small high schools that give good training in formula work, chemical mathematics, equation work and book work can turn out pupils who are as well-prepared as those who are trained in the large high schools that have far better laboratory equipment.

IV. Procedure

A. Laboratory

Probably no science lends itself so well to experimentation as does chemistry. It is the laboratory science par excellence. Whether the experiments should be of the demonstration or the individual type, there is, as yet, no authentic answer. Noted educators can be found to support each method as giving the better results. The committee feels, however, that the school and teacher that take the middle course, that is, of combining the two types, will probably achieve the objectives in the subject, in the most successful manner. The committee feels, also, that there are certain skills, as well as a more personal development of the powers of observation faculties, that favor the individual method wherever the pupil can carry through his experiment without too much help from the teacher or manual.

In choosing the experiments that are to be regarded as essential, the instructor should guard against the all too common error of requiring the pupil to waste his time and patience on experiments which have little, or at least no easily, perceptible relation, either to the classroom problems, or to activities of the home and community life of the pupil. In preparing the list of experiments that should be required this fact has been kept in mind. Included, also, is a list of very desirable experiments, from which the more alert pupil can choose, the results of which he can put before the class. The committee has purposely omitted a list of "optional" experiments so often found in many courses of study as it usually is the case that many of these are either not worth doing, or they are too difficult for the secondary pupil to derive much lasting benefit from them. The actual order of the problem should, of course, be arranged to suit the order of related topics as taken up in the classroom. As a rule, the work in the laboratory should precede the class discussion.

B. The manual

While no manual on the market embodies all the points that one might desire, the teacher who wants to give his best efforts can formulate types best suited to the special needs of the community. For the more inexperienced teacher, however, the manual that accompanies all modern textbooks on chemistry will probably give the best results. The use of prepared laboratory manuals usually gives the pupil too little opportunity for real thought on the experiment, because of too detailed directions. This should be avoided. A clear statement of the problem, followed by brief suggestions as to methods, stimulates individual thought and effort.

C. The notebook

A course in chemistry, or in any science involving laboratory exercises, without the keeping of systematic notes, is unthinkable. There is probably nothing in the entire work of the pupil which is so certain an index of his ability to observe, reason, and deduct, as his notebook. Here, as in the case of the manual, no particular form is specified, although that type in which blank spaces are left for one- or two-word answers is to be condemned. Probably the loose-leafed notebook, with unlined paper, makes as good a notebook as could be desired. As the experiments are completed they may be removed and handed to the instructor.

Some uniform plan of keeping the notes should, however, be adopted. For example, the date and the pupil's name should be the first items the eye should see. These should be followed, in turn, by the statement of purpose, what was done, and what was observed; lastly, a clear statement of conclusions, and if desired, practical applications, make a very excellent form to follow. Wherever the results are of a numerical nature, the pupil should be required to devise a tabular form; otherwise the results should be stated in good, yet brief, English.

V. Content

The Uniform Course

A. Introduction (One day*)

1. **Required**

   The meaning of chemistry. Physical and chemical changes. Examples and definitions of physical and chemical changes.

2. **Advised**

   Alchemy (brief). Geber. The Philosopher's Stone. Paracelsus. Achievements and uses of chemistry. The actual work of chemists.

B. Matter, energy, and metric units (Two days)

1. **Required**

   Definitions of matter, energy, element, mixture, and compound. The number of elements. Common properties of matter. Law of definite proportions. Law of conservation of matter and energy. Meter. Centimeter. Millimeter. Gram. Kilogram. Liter. Cubic centimeter (milliliter). Use of words for fractional and multiple parts of any unit.

2. **Advised**

   Definitions of a mineral, a rock, and an ore. Use of the words homogeneous and heterogeneous. Percentages of the important elements in the earth's crust.

C. Oxygen (Two days)

1. **Required**

   Occurrence. Discovery. Laboratory preparation. Catalysts. Physical properties. Oxidation. Combustion. Oxides. Decay. Relation to life. Products of oxidation.

2. **Advised**

   Phlogiston (caloric) theory. Lavoisier's experiment. Commercial preparation. Kindling temperature. Ozone. Spontaneous combustion. Oxidation of foods in animals. Function of the hemoglobin. Necessity of air in all types of combustion. Planck's quantum theory. Compton and photons. Energy has weight. Weight of the energy negligible in a chemical reaction.

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*The time quoted on all divisions is for class work only. It is the time allowed for covering the required and advised work.

3. **Optional**

   Lamps, stoves, and furnaces. Davy safety lamp. Commercial uses of oxygen. Oxyhydrogen and oxyacetylene blowpipes. Pulmotor. Allotropism. Flesh point.

D. Hydrogen (One day)

1. **Required**

   Occurrence. Laboratory preparation. Commercial preparation. Physical and chemical properties. Reduction. Hydrogenation of oils. Use in balloons.

2. **Advised**

   The various methods of making hydrogen. Liquefaction of coal.

3. **Optional**

   Occlusion. Kipp generator. Diffusion.

E. Water and hydrogen peroxide (Three days)

1. **Required**

   Physical properties of water. Density. Specific gravity. Boiling point. Freezing point. Melting point. Aqueous solutions. Percentage of water in plant and animal products. Meaning of the terms dehydrate, dessicate, and decant. Impurities in water. Purification by boiling, filtration, distillation, aeration, and chemicals. Definitions of synthesis and analysis. Synthesis of water by volume. Synthesis of water by weight. Electrolysis of water. Use of the terms anode, cathode, electrodes, anion, and cation. Hydrates. Efflorescence. Deliquesence. Hygroscopic.

2. **Advised**

   Preparation of hydrogen peroxide. Uses, properties, and composition. Inhibitors (negative catalysts). Specific heat. Test for ammonia in water to show impurities (Nessler's solution).

3. **Optional**

   Heat of fusion. Heat of vaporization. Vapor pressure.

F. Acids, bases, and salts (Two days)

1. **Required**

   Characteristics of acids. Acids may be solids, liquids, or gases. Common element hydrogen. Characteristics of an acid depend upon the hydrogen. Names of several of the common acids. Test for an acid.

   Characteristics of bases. Most bases are solids. Ammonia gas and water. Common elements are hydrogen and oxygen. Names of several bases. Test for a base. Lyes. Use of the words alkaline and caustic.

   Neutralization. The action of an acid on a base. Products formed. A definite amount of acid requires a definite amount of base. Indicators. Salts. Crystals.

G. Gases and their measurement (Three days)

1. **Required**

   Evaporation. Diffusion. Molecules. Kinetic molecular theory. Boyle's law. Absolute temperature. Charles' law. Gay-Lussac's law of volumes. Standard conditions of temperature and pressure. Effects of compression and expansion of gases on the temperature, and space between the molecules. Viscosity in liquids and gases. Cause of pressure in gases. How to find the volume of a gas when the temperature and pressure are changed to standard conditions. Avogadro's law. Weights of one liter of various gases compared. Molecules of different gases do not have the same weight. The weights of molecules of gases are to each other as the weights of equal volumes of their gases. Correction for vapor tension.

2. **Optional**

Correction for difference in level. The combined gas equation. Historical items. Brownian movements in liquids.

H. Atoms, molecules, molecular weight, and atomic weight (Three days)

1. **Required**

Review all gas laws. Law of definite proportions. Law of conservation of matter and energy. Physical and chemical change. Meaning of hypothesis, theory, and law. Dalton's atomic law. Definition of atom and molecule. The hydrogen standard of atomic weights. The oxygen standard. Definitions of atomic weight and molecular weight. Molecular weights of gases can be found by comparing the weight of a liter of any gas with the weight of a liter of oxygen. If a gas has one atom in its molecule, its atomic weight is its molecular weight. The molecular weight of any compound is the sum of the weights of all the atoms in the compound. Meaning of a mole (gram molecular weight). A mole of any gas is 22.4 liters.

2. **Optional**

Methods of finding atomic weights. Methods of finding molecular weights of solids and liquids (some given later). Theodore Richards. Specific gravity of gases. Atomic hydrogen.

I. Nitrogen and atmosphere (Three days)

1. **Required**

Importance of nitrogen (the creator, the preserver, and the destroyer). Sources of nitrogen. Uses of nitrogen and its compounds. Preparation of nitrogen from the air. Preparation of pure nitrogen. Properties of nitrogen.

Air. Weight and pressure of the air. Percentage composition of the air by volume. Impurities in the air. Proper ventilation. Liquefaction of the air. Effects produced by compression and expansion of any gas. Properties of liquid air. Names of the rare gases. Source and use of helium. Use of neon. General properties of the rare gases.

2. **Advised**

Method of extracting oxygen, nitrogen, carbon dioxide, water vapor, dust, and the rare gases from the air. Air a mixture. The nitrogen cycle. Bacteria in the air. Water vapor in the air.

3. **Optional**

Experiments with liquid air. William Ramsay. Dewar flasks. Meanings of names of the rare gases. History of nitrogen.

J. Carbon dioxide and carbon monoxide (Three days)

1. **Required**

Carbon dioxide. Occurrence of carbon dioxide. Percentage in air. Formation by fires, by decay, by respiration of animals, and by vulcanism. Withdrawal from the air by plants and by the formation of carbonate rocks and coal. Limestone rocks and coal beds as storage places for the earth's carbon dioxide. Percentage of carbon dioxide in a limestone rock. Effects that would be produced by a higher percentage of carbon dioxide in the air. Laboratory preparation. Commercial preparation. Properties. Uses. Dry ice. Fire extinguishers. Carbonic acid. Test for carbon dioxide with lime water. Carbonates. Test for carbonates. Photosynthesis.

Chlorophyll. Production of starch, sugar, cellulose, lignin, and oils from carbon dioxide and water. Production of proteids.

Carbon monoxide. Production from carbon. Production of the pure gas. Properties. Poisonous effects. Dangers from automobile exhaust gases, fuel gases, and mine gases. Reduction of oxide ores with carbon monoxide.

2. **Advised**

Carbonated beverages. Effects of carbon monoxide on the red corpuscles.

K. Carbon, heat, and fuels (Four days)

1. **Required**

Forms of carbon. Occurrence in plants, animals, coal air, carbonate rocks, oil, and natural gas. Formation of peat, lignite, bituminous coal, and anthracite coal. Percentage of carbon in these fuels. Manufacture and use of graphite. Manufacture and uses of lamp black and carbon black. Products from the dry distillation of soft coal. Use of coke. Products formed from the dry distillation of wood. Products formed by distilling pitch. Measurement of heat. Calorie. B. T. U. Temperature—the intensity of heat. Calorimeter. Heat value of a pound of coal, a gallon of gasoline, and a cubic foot of gas a definite thing. Manufacture of coal gas, water gas, and producer gas. The principal components of these gases and natural gas. Liquefaction of coal. Waste in the use of coal. Smoke. Prevention of waste in coal. (Frequently pupils in the chemistry class have not had physics. These pupils should be given a brief explanation of kinetic energy, potential energy, electrical energy, volt, ampere, coulomb, watt, kilowatt, and water power.)

2. **Optional**

The occurrence, properties, and formation of diamonds. Natural graphite. Moissan, Acheson, and the electric furnace. Artificial production of gems. Chemical and physical properties of carbon. Bone black. Lead pencils. Coal deposits. Gas masks. Absorption. Beehive coke ovens. Pintsch gas. Blau gas. Illumination. Flames. Low temperature coking coal. Powdered coal as a fuel.

L. Chlorine and hydrochloric acid (Three days)

1. **Required**

Chlorine. Source of chlorine and chlorine compounds. Laboratory preparation. Commercial manufacture. Electrolysis of sodium chloride brine. Physical and chemical properties. Action of chlorine on water. Hypochlorous acid. Properties of hypochlorous acid and hypochlorites. Manufacture of hypochlorites. Bleaching powder. Bleaching. Irrigating wounds with Dakin's or Carrel's solution. Purifying water with chlorine. Use of carbon tetrachloride. Other uses of chlorine.

Hydrochloric acid. Action of sulphuric acid on sodium chloride. General method of preparing acids. Why sulphuric acid is used. Synthesis and electrolytic decomposition. (Results only.) Properties of the gas and its water solution. Chlorides. The insoluble chlorides. Test for chlorides and hydrochloric acid. General method of making salts by putting an acid on a metal, its oxide, its hydroxide, or its carbonate.

2. **Optional**

War gases. Chlorine treatment of colds. History of chlorine. Uses of hydrochloric acid.

M. Valence, nomenclature, formulas, and equations (Laboratory time)

1. ***Advised**

Definition of valence. Meaning of nomenclature. Learning the spelling and symbols of fifty of the most common elements. Learning the formulas and names of the salts of fifteen common acids: hydrochloric, nitric, sulphuric, hydrosulphuric, hydrobromic, hydriodic, hydrofluoric, carbonic, phosphoric, sulphurous, nitrous, hydrocyanic, acetic, tartaric, and silicic. Add to this list hydrogen hydroxide and hydrogen oxide—considering the oxides and hydroxides as salts of these. Learning the valence table of the common metallic ions: Na, K, NH, Ag, H, Ca, Ba, Sr, Mg, Pb, Cd, Zn, Co, Mn, Al, Bi, and Cr. Learning the valence of the common variable metallic ions: Cu, Fe, Hg, and Sn. Learning to write formulas by combining the metallic ions with the acid radicals. (Teach the valence of the acid radicals from the hydrogen at the beginning of the formula.) Simple equation work involving the transferring of ions. (Learn important equations as they occur in the text and review them later.) The meaning of a formula.

2. **Advised**

Berzelius. Derivation of the symbols.

3. **Optional**

Graphic formulas. The ions: As and Sb. The formulas of other acids. How valence is determined. Valence of acid ions and radicals.

N. Chemical mathematics (Four days)

1. **Required**

Find the weight of any volume of a solution when the S. G. is given. Find the weight of C. P. chemical in any volume of a solution when the S. G. and percentage purity are given. Find the volume of liquid it requires to obtain a certain weight of C. P. chemical when the S. G. and percentage purity of a solution are given. Find the percentage of any element in a compound from the formula. Review finding the volumes of gases when the temperature and pressure changes are given. Find the molecular weight of a liter of gas from its formula. Find the molecular weight of a gas from its weight per liter. Figure out the weight of any substance in an equation when the equation and the weight of one substance in the equation are given.

2. **Advised**

Find the simplest formula for a compound from the percentage composition, or the exact formula if the molecular weight is also given. Find the volumes of gases in a gas equation when the volume of one gas is given.

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*This work should be done during laboratory time. If six double periods are taken for it, it will be time well spent.

3. **Optional**

   Figure out the weight of any chemical in any volume of a one molar or a tenth molar solution or in a normal or a tenth normal solution. How to figure out titration problems.

O. Solutions (Two days)

1. **Required**

   Use of the terms solute, solvent, solution, and concentration of the solution. Solubility of different chemicals at the same temperature. Effects of changes in temperature on the solubility of a given salt. Effect of the solute on the temperature of the solvent when the solute is a gas or a solid. Saturated solutions. Solutions of liquids in liquids. Solutions of metals in metals (alloys). The effect of the solute on the boiling and freezing points of the solvent. The boiling and freezing points of a one molar solution of any non-electrolyte. The change on the freezing and boiling points of a non-electrolyte varies as the number of molecules in the solution per liter varies.

2. **Optional**

   Heat of solution. Supersaturation. Solubility curves. Henry's law. Freezing mixtures. Finding the molecular weight of a non-electrolyte from the boiling and freezing point. Osmotic pressure. What it is. Its importance.

P. The colloidal condition of matter (Two days)

1. **Required**

   Meaning of the colloidal condition. A suspension. A true solution. A colloidal solution. Difference in filtration. Size of particles. Brownian movements. Properties of colloids. (Sticky. Plastic. Foaming. Swelling. Coagulation.) Gels. Emulsions. Smoke. Electrical charges on the particles. Crystalloids. Precipitation of colloids.

2. **Advised**

   The Cottrell process. Dialysis.

3. **Optional**

   Preparation of colloids. Classes of colloids. Protective colloids. Syneresis. Absorption. Colloids in the industries. Solid alcohol.

Q. The theory of ions (Four days)

1. **Required**

   Electrolytes and non-electrolytes. Definitions and tests for electrolytes and non-electrolytes. Freezing and boiling points of the one molar solutions of electrolytes and non-electrolytes compared. Molecules break up into smaller particles. Ions. Arrhenius. Difference between an ion and an atom. Electrolysis of water reviewed showing the action of the ions. Some ions have double or triple the charge of others. This charge is the valence. This charge is caused by a gain or loss of electrons. Discussion of electrons. Gain of an electron gives negative charge. Loss of an electron gives positive charge. The electron is unit charge. Ions are carriers of electricity. The conductivity of an electrolyte depends upon the number of ions per cc. (Concentration of the ions.) The molecules of an electrolyte do not all break up. The conductivity shows the degree of ionization.

The definition of an acid by ions. Properties of the hydrogen ion. Definition of a base by ions. Properties of the hydroxyl ion. Neutralization from the ion viewpoint. Salts. Equal volumes of normal solutions of acids and bases neutralize each other. Heat produced when a mole of water is produced by the neutralization of an acid by a base (13,780 calories). What determines the strength of an acid? (The number of hydrogen ions per cubic centimeter.) Why some acids are strong. Why some acids are weak. How dilution affects the ionization. Meaning of concentrated acid. Meaning of hydrolysis. Why some normal salts test basic and others acid. How the formula of a normal salt will often show whether the salt will test for an acid or a base. Tests for acids are tests for the negative ions.

Meaning of the terms: Normal salts, acid salts, basic salts, volumetric analysis, titration, burette tube, indicators, and pipette.

2. **Optional**

Figuring out titrations. Formation of crystals. Crystal structure. Bragg and Bragg. Laue. Reactions that go on to completion.

R. Chemical equilibrium

1. **Required**

Meaning of a reversible reaction. Dynamic (kinetic) equilibrium. Heat of formation. Stability of chemical compounds. Factors affecting the rate of chemical reactions (heat, light, size of the particles, rate of agitation, catalysts, and molecular or ion concentration).

2. **Optional**

Law of mass action. Chemical equilibrium and mass action. Common ion effect.

S. Ammonia and the fixation of nitrogen (Two days)

1. **Required**

Ammonia. Sources. Production by: (a) Decay of nitrogenous plant and animal matter; (b) production by destructive distillation of nitrogenous plant and animal matter with lime; (c) production by destructive distillation of coal, and (d) the Haber process and Claude's modification. Laboratory preparation of ammonia. Meaning of fixation of nitrogen. Importance of getting nitrogen compounds cheaply from the air. Properties and uses of ammonia. Refrigeration by ammonia. Manufacture of artificial ice. Ammonium hydroxide as a base. Ammonium compounds. Tests for ammonia and ammonium salts. Testing by Nessler's solution and heating with a base. Fixation of nitrogen by leguminous plants. Ammonia plus water.

2. **Advised**

Ammonium sulphate as a fertilizer. Ammonium chloride in dry cells. Ammonium nitrate in explosives. Comparison of ammonium salts with sodium and potassium salts. Decomposition of ammonium salts by heat. Principal commercial processes—the Haber process and the process of extracting ammonia by distilling coal.

3. **Optional**

Birkland-Eyde fixation process. Ostwald's cyanamide process. Muscle Shoals. Ammonium carbonate as smelling salts. Household ammonia as a cleaning agent. Sulphur dioxide and methyl chloride as refrigerants.

T. Nitric acid, the nitrates, and explosives (Three days)

1. **Required**

   Nitric acid. Necessity of nitrogen for fertilizers, for explosives, and for live tissues. Sources of nitrogen and nitrogen compounds: Chile saltpeter, the air (fixation processes), coal (dry distillation), and waste plant and animal matter. Description of the Chile saltpeter beds. Manufacture of nitric acid from Chile saltpeter. Preparation from ammonia and air. Chemical properties. Use as an acid and as an oxidizing agent. Fuming nitric acid. Action of dilute nitric acid on copper. Equation. The preparation and properties of nitric oxide and nitrogen peroxide. Nitrates. Brown ring test.

2. **Advised**

   Explosives. Cause of explosions. Ignition of explosives. Detonation of explosives. Effect of an explosion in a building. Use of explosives. Composition and manufacture of Greek fire, black gunpowder, nitro-glycerine, dynamite, gun cotton, smokeless powder, T. N. T., amatol and nitro starch.

3. **Optional**

   Physical properties of nitric acid. Action of nitric acid on other metals besides copper. History of nitric acid. The preparation, properties, and uses of nitrous oxide. The preparation of nitrites. Nitrogen trioxide. Nitrogen tetroxide. Nitrogen pentoxide. Nitrous acid. Celluloid. Artificial leather. T. N. B. Collodion. Picric acid. Blasting gelatine. Cordite. Power of explosions. Permissible explosives. Detonators. History of explosives. Nobel. Schonbein. Sobrero. The action of fuming nitric acid with fuming sulphuric acid on glycerine, cotton, benzene, toluene, and phenol.

U. The periodic system and the structure of matter (Two days)

1. **Required**

   The periodic arrangement of the elements according to the atomic numbers. Mendelejeff's work. How the atomic numbers were secured. Moseley. Valence from the periodic table. Families of elements. Changes in the physical and chemical properties of the elements in going down the groups.

   Changes in properties in crossing from left to right. Value of the table. Diagrams of a few atoms showing valence from the electrons. Isotopes.

2. **Optional**

   Ancient ideas of matter. History of atoms and molecules. How the diameter of molecules is measured from oil films. How the number of molecules of a gas in a cubic centimeter is counted by the decomposition of radium. Speed, collisions, and pressure of molecules. Empty space in a gas. Molecules composed of atoms—the evidence. The X-ray tube. Particles smaller than atoms—the electrons. The evidence that they are matter. Protons. J. J. Thompson. Diameter of electrons. Weight. Diameter of protons. Weight. Vacant space in the atom. The composition of matter. (Matter is made of electric charges, or of particles charged with electricity.)

   The spectroscope. The spectrum (caused by the spreading of light) due to differences in wave length. The spectrum comes from the atom (not a molecular effect). The spectrum from diffraction grating. X-rays compared with ordinary light waves. Laue's suggestion. Thickness of the layers in a crystal. Bragg and Bragg. Moseley's work. X-ray spectrums and atomic numbers.

Disintegration of radium. Products formed. Atoms are divisible. Ernest Rutherford's atomic diagrams. The octet theory (Lewis and Langmuir). How it explains valence. How electrons jump from orbit to orbit (Nels Bohr) and take up or give off energy. Max Planck's quantum theory of giving off light and heat. Energy has weight (Einstein). The relativity equation shows energy changes (weight changes) in the atom.

All matter is made of hydrogen (William Prout, 1815). Present belief in this theory. All matter made from helium (Harkins). Helium from hydrogen (4x1.008 equals 4,032)—the excess matter given off as energy. Enormous sources of energy in the atoms. Protons shot out of atoms—making other elements (James Millikin).

Outside temperatures of stars (as high as 20,000 degress). Inside temperatures (may be millions of degrees, Jeans). Heat caused by breaking down or building up of atoms. Constant loss of weight (energy) by the sun. Compton and photons. Star energy (matter) recombines in space. New heavenly bodies produced. Combining of dissipated star energy in space produces cosmic rays (Millikin).

(Most high school students will not go to college. Unless they are given this work, they may never hear of some of it, and will avoid reading it because it appears too difficult. Any understanding of this subject requires some knowledge of physics, chemistry and astronomy. Three or four days devoted to the Periodic System and Structure of Matter by a teacher who has some understanding of it, and who realizes its importance, will leave a lasting impression on pupils and give them a foundation for the science of the future.)

V. Sulphur and its compounds (Four days)

1. Required

Sulphur. Probable formation from volcanic gases and gypsum. Sulphur wells of Texas and Louisiana. Purity of the product. Percentage of the world supply produced in these states. Herman Frasch. Allotropic forms (brief discussion). Properties and uses.

Hydrogen sulphide. Preparation. Physical and chemical properties. The sulphides. Test for hydrogen sulphide and the sulphides.

Sulphur dioxide. Preparation by burning sulphur, by roasting a sulphide ore, and by putting an acid on a sulphite. Physical and chemical properties. Uses. Bleaching with sulphur dioxide. Use of calcium bisulphite in paper making. Sodium sulphite as a meat preservative.

Sulphur trioxide. How made. Properties. The contact process of making sulphuric acid. The lead chamber process (used in Anaconda, Montana). (These two processes of making sulphuric acid should be covered briefly. The commercial machinery used should not be discussed.) Importance of sulphuric acid. Physical and chemical properties of the acid. Uses of sulphuric acid in making acids, fertilizers, and explosives. Test for sulphuric acid and the sulphates. Blue vitriol. Green vitriol. Gypsum. Alum. Sodium sulphate.

2. **Advised**

Formation of sulphur springs. Occurrence of sulphur in the volcanic regions of Sicily, Mexico, Japan, and the Yellowstone Park. Use of hydrogen sulphide in qualitative analysis. Preparation and use of carbon disulphide. Price of sulphuric acid. Number of sulphuric acid plants in the United States. Annual value of the product. Occurrence and use of selenium.

3. **Optional**

Purification of sulphur. Insecticides containing sulphur. Methods of making the allotropic forms. Physical and chemical properties of the allotropic forms. Tarnishing silver. (See under silver, G^1.) Storage batteries. Action of hot concentrated sulphuric acid on copper. Color of the sulphides. Solvent properties of carbon bisulphide. Sulphates not listed.

W. Soils and fertilizers (Optional)

(Much of the material in this division is found in other divisions. In agricultural sections two days' time should be given to this unit and some other material should be omitted.)

1. **Optional**

How soil is formed. Composition of soil. Sand. Clay. Humus. Limestone. Important minor ingredients (nitrates, sulphates, phosphates, iron oxide, magnesia, soda, and potash). Mineral foods of plants revealed by their ashes. Liebig. Necessity of adding nitrogen, phosphorus, and potassium compounds to the soil.

Sources of nitrogen fertilizers: Chile saltpeter, calcium nitrate, and calcium cyanamide. Ammonium sulphate. Manure. Legumes. Plant and animal refuse. Sources of potash fertilizers: Stassfurt, Germany; Alsace, France, and Searles Lake, California. Manure. Wood ashes. Sources of phosphate fertilizers: Florida, Tennessee, Alabama, Oklahoma, South Carolina, Montana, Idaho, North Africa. Bones. Manure. Guano. Effects of fertilizers on yields.

Sour soils. Cause. Use of limestone on soils.

X. The halogen family (Two days)

1. **Required**

What halogen means. The members of the halogen family. General method of making hydrochloric acid (sulphuric acid on sodium chloride), hydrobromic acid, hydriodic acid, and hydrofluoric acid. Hydriodic acid the exception. How it is made. General laboratory method of preparing the elements: chlorine (manganese dioxide and hydrochloric acid), bromine, iodine, and fluorine. Fluorine the exception. How it is made. Electrolysis of a solution of the sodium or potassium salts of chlorine, bromine, or iodine. Effects of passing chlorine into a solution of a bromide or an iodide. The solution of a chloride, bromide, or an iodide, with manganese dioxide and concentrated sulphuric acid shows the presence of the element. Silver nitrate precipitates the chloride, bromide, and iodide. The starch test for iodine. Bromine. Sources. Physical properties of bromine. Use of silver bromide in photography. Poisonous properties of bromine.

Iodine. Sources. Physical properties. Used for goitre cure and for treatment of stock (cattle, sheep, and pigs). Tincture of iodine.

Fluorine. Most active non-metal. Sources. Fluorspar. Formula.

Cryolite. Formula. Properties of hydrofluoric acid. Uses of the acid in etching glass and cutting stone. Action of the acid on silica. Equation. Danger in handling the acid.

Comparisons of the four halogens.

2. **Optional**

History of bromine, iodine, and fluorine. Preparation and uses of hydrobromic and hydriodic acids. Chemical properties of bromine and iodine. Moissan, Details of the manufacture of hydrofluoric acid. Testing for bromine and iodine by shaking out with chloroform.

Y. Silicon, ceramics, abrasives, and boron (Three days)

1. **Required**

Silicon. Similarity to carbon. Next to oxygen, the most abundant element. The most important element in the rocks. Found in nature only in compounds. Sand clay the most common compound. Names of several varieties of quartz (silica or silicon dioxide). Properties of quartz.

Silicate rocks. Formation from quartz and the oxide of a metal. Clay, or kaolin (aluminum silicate), the most common silicate. Slate and shale (clay rocks). Feldspar a very common rock. Names of several silicate minerals and rocks. Rocks, except limestone, generally quartz, silicates or mixtures of silicates and quartz. Sand and clay the final products of rock decay.

Water glass. Formula. Manufacture by fusing sand and soda and by boiling sand with sodium hydroxide under pressure. Solubility in water. Uses. Acids on soluble silicates produce silicic acid. Action of carbon dioxide on a solution of water glass. Uses of silicic acid as an absorber of gas and as a refrigerant.

Glass. Water glass soluble. Calcium silicate, as a glass, easily cracked. Fusion of sand, soda, and limestone makes an insoluble, not easily cracked, glass. Common soft or crown glass. Hard or Bohemian glass. Flint glass. Pyrex glass. Annealing glass. Coloring glass.

Ceramics. Meaning of the word. Glass making now considered a branch of ceramics. Properties of clay (impure kaolin). Manufacture of bricks, fire bricks, jugs, tile, and crocks. Stoneware. Glazes on cheap ware. Manufacture of porcelain and china. Glazing and coloring porcelain and china. Glazing enamelware and bathtubs. Use of tannic acid in ceramics.

Abrasives. Economic importance of high grade tool steel and high grade abrasives. Grindstones. Whetstones. Corundum. Emery. Manufacture of carborundum. Uses.

Boron. Occurrence as boric acid, borax, and calcium borate. Use of boric acid. Use of borax in glass making and in cleaning.

2. **Optional**

Preparation of silicon and boron. Glass making machinery. Glass blowing and moulding. Armored glass. Windshield glass. History of glass making. Colemanite. Duriron.

Quartz glass. Its strange properties. Remarkable transparency. Non-breakable by heat changes. Transparent to infra-red and ultra-violet light.

Z. Phosphorus, arsenic, antimony, and bismuth (Nitrogen family) (Two days)

1. **Required**

Calcium phosphates and bones—the sources of phosphorus. Producing countries and states include North Africa, Oklahoma, Montana, and Idaho. The phosphate plant of the Anaconda Copper Company in southeast Idaho. The high grade phosphate near Whitehall (now being shipped to Trail, B. C.). Percentage of calcium phosphate in burned bones. Phosphorus in the proteids of plants and animals. Phosphorus essential to plant and animal life. Phosphorus found in all good soils. Extraction of phosphorus from phosphate rock with sand and coke. Purpose of the sand and the coke. How the product is collected. Properties of white and red phosphorus. Use in making matches. How the common match is made. Use of the various ingredients in the common match. How insoluble calcium phosphates are changed to soluble salts for fertilizers. The fertilizer business the greatest chemical industry. Sulphuric acid consumed by the fertilizer industry (50% of the entire product). Action of phosphorus pentoxide on water.

Arsenic. Occurrence. Production in Anaconda from flue dust. Former production in large quantities at Jardine, Montana. White arsenic. Use in insecticides: Paris green, lead arsenate, and calcium arsenate.

Antimony. Main source—China. Use in making babbitt and type metal. Use of compounds in making matches, rubber, and paints.

Bismuth. Appearance of the metal. Use in making low melting point alloys.

2. **Advised**

New furnace methods of making phosphoric acid and phosphate fertilizers.

3. **Optional**

History of phosphorus. Primary, secondary, and tertiary phosphates. Details of the furnace for phosphorus production. The equations. Detailed comparison of the members of the nitrogen family. Safety matches. Amphoteric elements. Smoke screens. Sublimation of arsenic trioxide. Use of trisodium phosphate as a cleaner. Compounds of arsenic antimony and bismuth. Arsenic in shot. Rose metal. Wood's metal.

A¹. The hydrocarbons (Three days)

1. **Advised**

Meaning of hydrocarbons. The several series of hydrocarbons. How a series is built up from its lowest member. The names and formulas of the first six members of the methane (paraffin) series. Source of the hydrocarbons.

Methane (marsh gas). Formula. How it is formed in swampy places. Occurrence in coal gas and natural gas. Products formed when any hydrocarbon burns in excess air.

Acetylene. How it is made. Its formula. Uses of acetylene.

Ethylene. How it is made. Its formula and uses in ripening fruit and in anaesthetics.

Petroleum. Principal producing countries. Principal producing states. How gas and oil collect and are stored in the ground.

Possible methods of formation. Different kinds of petroleum. Refining of petroleum. The products formed by distillation. Cracking petroleum. Possibilities of hydrogenating petroleum. Anti-knock gasoline. Lubricating oils.

Methyl alcohol (wood alcohol). Formula. The dry distillation of wood and the products formed. Use in making varnishes and formaldehyde. Production of methanol from carbon dioxide and hydrogen. Possible destruction of the wood distillation business.

Ethyl alcohol. Production by fermentation. Distilling apparatus. Enzymes as catalysts. Production principally from molasses. Commercial uses. Denatured alcohol. Glycerine (glycerol). Its formula, source, and use.

Graphic formulas. Graphic formulas for methane, ethane, methyl alcohol and ethyl alcohol. Use of these formulas.

How ether is made. General formula for an ether. Use of ether. How formaldehyde is made. General formula for an aldehyde. Use of formaldehyde as a disinfectant. How bakelite is made. Uses of bakelite. Production of acetic acid from wood. Production of acetic acid by fermentation. The making of vinegar. General formula for an organic acid. Natural sources of formic, citric, oxalic, lactic, malic, and tartaric acids. How esters are made. Occurrence of esters. Fats and oils as esters.

Production of carbon tetrachloride from carbon disulphide and chlorine. Formula and uses. Formula for chloroform.

The principal products formed from the distillation of coal tar. The benzol (benzene) series. Formulas for benzene and toluene. T. N. T. Phenol (carbolic acid). Use of phenol in making bakelite. The formula for aniline.

B^1. Oils, fats, soaps, paints, and varnish (Three days)

1. Advised

Oils. Animal and vegetable oils as esters of glycerine and organic acids. The three acids most common in oils and fats. What a fat is. Difference between a wax and a fat. Classification of the vegetable and animal oils into drying, semi-drying, and non-drying divisions. The meaning of a drying oil. Use of drying oils in paints. Principal drying oils (linseed and tung). Principal vegetable semi-drying oils (cotton seed, soy bean and corn). Principal non-drying oils (cocoanut, palm, olive, peanut, and castor). Use of oils in foods, paints, soaps, leather making, and medicines. Poorer grades of oils and fats used for soaps. Butter. Lard. Whale, fish and animal fats, and oils. Hydrogenation of oils. Artificial lard and butter. The animal and vegetable fat and oil business—one of the world's greatest industries. (Any one of the following oils is worthy of considerable study: cottonseed, linseed, soy bean, corn, peanut, cocoanut, tung, and sperm.)

Soaps. Composition of soaps. Saponification. Lyes commonly used. Oils and fats commonly used. Hard soaps. Soft soaps. Fillers. Characteristics of a good soap. Laundry soaps. Toilet soaps. Composition of washing powders. Action of soap on hard water. Glycerine a by-product.

Paints. Composition of a paint. Vehicle and pigment. Oils used for the vehicle. Necessity of a drying oil. Effects of the air on a drying oil. Tung oil and linseed oil compared with other cheaper oils for paints. Semi-drying and fish oils as substitutes. Pigments. Natural pigments. Variety of iron oxides.

Chrome yellow, green, orange, red and blue. Prussian blue. Lamp black. White lead. Zinc white. Lithopone. Comparison of zinc and lead paints. What lakes are and how they are made. Driers. Extenders. Thinners. Stains. Composition and use of kalsomine. Casein paints. Artist's oil paints.

Varnish. Composition. Resins used (copal and rosin). Similarity of resins to fats and oils. Use of tung and linseed oils in varnishes. Solvents (alcohol and turpentine). Qualities of a good varnish. The composition and use of shellac. Meaning of lacquers. How pyroxylin is made. Nitrocellulose. Solvents. Plasticisers.

C[1]. Carbohydrates and proteins (Three days)

1. Advised

Carbohydrates. Meaning of the word. Classification (sugars, starches, cellulose and lignin). Meaning of polysaccharides.

Glucose (dextrose or grape sugar). Formula. Occurrence. How it is made. Uses. Corn syrup. Levulose (fructose). Formula. Where it is found. Lactose (milk sugar). Formula. The percentage in milk. Use in baby foods. Maltose. How it is made. Corn sugar. Honey.

Sucrose. Formula. Process of manufacturing beet sugar. Beet sugar factories in Montana. Principal beet sugar producing states and countries. Principal regions producing cane sugar. Cane sugar cheaper to produce than beet sugar. Result of boiling sucrose with a dilute acid. Caramel.

Starch. Formula. Occurrence. Variation in starch grains as seen under the microscope. Solubility. Use. Corn starch. Potato starch (gloss starch). Effects of boiling starch. Boiling starch with a dilute acid. Test for starch. How dextrine is made. Uses of dextrine.

Cellulose. Formula. Occurrence. Textile cellulose fibers. Paper making. Treatment of the wood to secure pure cellulose. Fillers. Bleaching. Sizing. Wall board (fiber board). Lignin. Percentage in wood. Importance of finding a use for it.

Protein. A constituent of all living plant and animal cells. Protein foods necessary for all plant and animal life. Many kinds of protein. Elements found in protein. Proteins formed from amino acids (acids with the amine group in them). High protein foods.

D[1]. Foods, clothing, leather, and rubber (Three days)

1. Advised

Food. Why we need food. Classification of foods. Food values of proteins, fats, carbohydrates, and mineral salts. The general function of the digestive fluids. Action of enzymes. Saliva and the ptyalin. The gastric juice and the pepsin. Hydrochloric acid in the stomach. The function of the bile. The pancreatic juice and the enzymes amylopsin, trypsin, and lipase. Wastes carried by the blood formed from decomposed tissues (water, carbon dioxide, and urea). Vitamins A, B, and C. Need for iron, calcium, phosphorus, sulphur, and iodine. Reasons for a balanced diet. Hormones.

Clothing. Principal textile fibers. Microscopic appearance of wool, cotton, linen, and silk fibers. How dyes affect these fibers. Difference in composition of these fibers. Laboratory test for a part-wool, part-cotton fabric. Mercerized cotton. Weighted silk. Rayon. Method of manufacture. Comparison of rayon with cotton and silk. Removal of stains. Source and use of jute, hemp, kapok, and ramie.

Leather. Removal of hair from the hide. Tanning. Various materials used in tanning. Source of cordovan, kid, suede, and morocco leathers. Furs.

Rubber. Formula. Source of the latex. Center of the crude rubber industry. Extracting the caoutchouc from the latex. Vulcanizing the caoutchouc. Goodyear. How rubber is colored. Use and value of fillers. Uses of rubber. Percentage of the world's product consumed in the United States. Rubber—a billion dollar a year business.

E^1. Sodium and potassium and their salts (Three days)

1. **Required**

The alkali metals: Lithium, sodium, and potassium. Common properties of these metals. Valence. Reaction with cold water and strong basic action.

Occurrence of sodium. Sodium chloride. Common salt—found in many foreign countries and in many states in the United States. Sea water. Pumping salt from wells. Electrolysis of sodium chloride brine forming chlorine, sodium hydroxide, and hydrogen. Value of this process and use of the three products. Sodium carbonate. Natural deposits. Solvay process of making soda (brief). Properties, uses, and formula of baking soda. Properties, uses, and formula of sal soda. Baking powders. Action of yeast in dough. Use of sour milk and baking soda (saleratus). Cream of tartar and baking soda used as a leavening agent. Cream of tartar, starch, and baking soda—a real baking powder. Use of the three ingredients. The three kinds of baking powders. Harm of excess soda and by-products. Alkali in the soil. What it is. Harmful effects.

Potassium. Occurrence in Stassfurt, Germany; Alsace, France; and Searles Lake, California. Wood ashes. Importance of potash compounds. Use of compounds in making fertilizers, soap, and glass. Flame tests for potassium, sodium, copper, strontium, barium, and borates. Pyrotechnics (fireworks). Powdered magnesium or powdered aluminum in flashlight powders.

2. **Advised**

The spectroscope. Bunsen. Kirchoff. Uses and formulas of: Sodium nitrate, sodium sulphate, sodium thiosulphate, sodium sulphite, sodium phosphate, sodium silicate, sodium tetraborate, potassium nitrate, potassium chlorate, and potassium permanganate.

3. **Optional**

Methods of making sodium and potassium metals. Uses of the metals. La Blanc method of making soda. Method of making sodium peroxide. Uses. Other sodium and potassium salts not listed. Caking of salt due to impurities. Details of the method, and apparatus for the electrolysis of salt brine. Salt and digestion. Salt mining. Uses of lithium.

F^1. Alkali earth metals (calcium, strontium, and barium) (Three days)

1. **Required**

General properties of these metals.

Calcium. Occurrence as limestone, gypsum, fluorspar, calcium phosphate, and dolomite. Limestone. Varieties. Uses. Solubility in water. Calcium bicarbonate. Formula. Solubility. Formation of caverns in limestone regions. Possible refilling of the caverns. Importance of limestone in the geological history of the world. The great layers of limestone thousands of feet thick in the earth's crust throughout most of the world. Mineral impurities in water. Hard water. Soft water. Temporarily hard water. Removal of limestone by boiling. What permanently hard waters contain. Softening of water. Soap, ammonia, borax, trisodium phosphate, and sal soda as water softeners. Large-scale softening of water with permutit. Economic loss caused by hard waters. Manufacture of lime by the long flame or rotary kiln process. Volcanoes as natural lime kilns. Properties and uses of lime. Composition of mortar and plaster. How mortar and plaster harden. Composition of modern patent plaster. Advantages in using patent plaster. Composition and uses of stucco. The occurrence, formula, and uses of gypsum. How plaster of Paris is made. Uses. Manufacture and composition of cement. Concrete. Hardening of concrete. Reinforced concrete. Importance of calcium in foods. The manufacture and use of calcium carbide.

Strontium. Occurrence as celestite and strontianite. Use in pyrotechnics for crimson.

Barium. Occurrence as barite (sulphate) and witherite (carbonate). Use of the nitrate in pyrotechnics for green. The sulphate as a pigment. Lithopone.

2. **Optional**

Production, uses, and properties of calcium metal. Details of water softening. Compounds of calcium given elsewhere (calcium phosphate, calcium carbide, bleaching powder, calcium cyanide, and calcium fluoride). Calcium chloride as a drying agent. Lime-water. Whitewash. Air slacked lime. Strontium salts in refining sugar. Use of barium chloride.

G^1. Metallurgy, some metals and alloys (Four days)

1. **Required**

Definition of mineral, metal and ore. Properties of minerals and metals (luster, hardness, streak, specific gravity, structure, brittleness, malleability, ductility, tenacity, color, solubility, melting point, and electrical conductivity). Formation of basic oxides and hydroxides, and positive ions by metals. Concentration of an ore. Definitions of concentrator, gangue, tailings, and concentrates. Jigs. Oil flotation. Pyrometallurgy. Definition of smelter, flux, and slag. Roasting of sulphide and carbonate ores to form oxides. Reduction of oxides with carbon. Use of the flux. Hydrometallurgy. The cyanide process of extracting gold and silver. Electrometallurgy. Use in extracting aluminum and zinc.

Silver: Percentage in coins and in sterling silver. Use in plating. Tarnishing. Electrical conductivity. Leading producers. Price. Use of silver nitrate. Production of silver in Montana.

Gold. Placer mining. Quartz mining. The cyanide process. Amalgam process. Density. Purity of jewelry stated in carats. Purity of coins. Leading producers. Gold in Montana. Price fixed ($20.67 per ounce).

Platinum. Density. Melting point. Use in laboratories. Leading producers. Price.

Manganese. The ores, pyrolusite (black) and rhodochrosite (pink), both found in Montana. Mined in Butte and Philipsburg, Montana. World's source of supply (Russia, Brazil and India). Use in the steel industry. Use in dry batteries. Sold as an oxide. Manganese smelter in Butte. Low grade ore plentiful in the northwest.

Chromium. Chromite. Sources—mostly foreign countries. Use in the steel industry. Plating with chromium. Nicrome and its uses. Stainless steel. Tanning with chromium sulphate. Use of the oxide. Montana's great deposit between Livingston and Red Lodge.

Tungsten. Scarcity. Source—Indo-China. Small deposits in Montana. Melting point of tungsten. Use in light filaments and contact points. Use in high speed tool steel.

Cobalt. Source—Cobalt, Canada. Use in high speed steel, stainless steel (stellite), and in cobalt glass (blue).

Nickel. Sources. Use in steel, nickel plating, hydrogenation of oils, and coins. Decline in nickel plating. Monel metal on the market.

Molybdenum, titanium, and vanadium as used in the steel business.

Beryllium. Ores plentiful. Lighter and stronger than aluminum. Wonderful possibilities. No good method of extracting—one being tried.

Zirconium. Wonderful possibilities but scarce.

Corrosion of metals. Chemical action. Electrolytic action. Economic losses from rusting of iron and steel. Prevention of corrosion of iron and steel by painting. Russianizing, tin plating, and galvanizing.

Important alloys. Alloys as solutions of one metal in another. Brass. Standard brass. Uses. Properties. Bronze. Composition. Solder. Composition of ordinary solder. Hard solder. Composition and uses of babbit and bearing metals. Composition and uses of monel metal. (Other alloys given elsewhere.)

2. Optional

Chemistry of photography. Details of silver plating. Cleaning silver. Parke's process of extracting gold and silver. All compounds of the preceding metals not quoted. Use of platinum in electric lights. Platinite. The metallurgy of the preceding metals. All ores not quoted. Uncommon alloys.

H^1. Aluminum (Two days)

1. Required

The native element not found in the earth's crust. Clay, shale, and slate rocks. Most common rocks—except limestone and quartz rocks—compounds of aluminum. Sources and formulas of bauxite and cryolite. Corundum, emery, sapphire, and ruby. Manufacture of aluminum by the Hall process. Properties and uses of aluminum. Aluminum oxide and artificial gems. Aluminum hydroxide as the body for colored printing inks. Lakes. Mordants. Aluminum, tin, and iron salts as mordants. Alums. Formulas. Use for baking powders and purifying water. The sapphire mines at Yogo, Montana—the largest in the world.

2. Optional

Thermite. Properties of aluminum hydroxide. Aluminum alloys. Double salts. History of aluminum. Meaning of the rare earth metals.

I[1]. Magnesium, zinc, mercury, and cadmium (Two days)

1. **Required**

Magnesium. Common minerals—magnesite and dolomite. Talc, soapstone, asbestos, and Epsom salts. Use of the metal in fireworks and flashlight powders. Importance of magnesite as a lining for furnaces in metallurgy. Dolomite—a poorer lining. The composition and use of milk of magnesia. Boiler scale.

Zinc. The ores: Zinc blende, smithsonite, and zincite. Formulas of these ores. The principal producing states: Oklahoma, Kansas, New Jersey, and Montana. Belgium and Poland large producers. Spelter. Properties of zinc. Galvanized iron. Brass. Use of zinc in batteries. Zinc oxide in paints and white rubber. Lithopone. The zinc smelter at Great Falls, Montana. Production in Montana.

Mercury. Cinnabar. Produced in Austria, Italy, Spain, and California. Properties. Poisonous character of the metal and most of its salts. Use in thermometers, barometers, and thermostat. Amalgams and gold mining. Use of calomel in medicine. Bichloride of mercury as an antiseptic. The oxide and the sulphide as pigments.

Cadmium. A by-product in smelting zinc. The sulphide—a high grade yellow paint pigment.

2. **Optional**

Extraction of the metal magnesium. Carnallite. Kainite. Meerschaum. Metallurgy of zinc. The chloride, hydroxide, and sulphate of zinc. Zinc etchings. Metallurgy of mercury. Mercury engine. Mercury fulminate.

J[1]. Iron and steel (Four days)

1. **Required**

Iron. The common ores of iron and their formulas. Principal producing states. Large foreign producers. Description of a blast iron furnace. Charge in the furnace. Operation and chemistry of the process. Use of the terms flux and slag. Composition, properties, and uses of pig iron. Production in the United States. Effects of carbon, phosphorus, and sulphur in pig iron. Difference between pig iron and steel. Description of the open-hearth furnace. Details of the process of making open-hearth steel. Uses of open-hearth steel. Making by the electric furnace—the coming process. Advantages of the electric process. Composition of steel. Tempering of steel. Brittleness of hard steel. Pliability and ductility of soft steel. High speed steel—hard, tough and not brittle. Important iron alloys and their uses. Loss in corrosion of iron and steel. Stainless steel. Russianized iron. Carboloy. Nitralloy.

2. **Advised**

Process of making wrought iron. Properties, uses, and composition of wrought iron. The Bessemer process of making steel. Description of the furnace. Method of operating the furnace and chemistry of its action. Poor quality of Bessemer steel and decline in its use. Crucible steel. Quality and uses of crucible steel. Microscopic structure of steel. Use of ferrous sulphate. Iron oxides as pigments. Composition of ordinary ink. Abundance of iron ore in Montana.

3. **Optional**

Ferric and ferrous compounds. Blue prints. Invar and platinite. Case hardening of steel. Forging. Iron mining. Fool's gold. Removal of ink stains.

K^1. Copper (Three days)

1. **Required**

Common ores. Native, malachite, chalcocite, cuprite, and chalcopyrite. The large producing countries: Chile, Belgian Congo, Mexico, Peru, and the United States. The large producing states. Production in Montana (300 000,000 lbs., 1929). Metallurgy of sulphide ores. Concentration by flotation and jigs. Roasting in McDougal furnaces to remove part of the sulphur. The action of the matte furnace and the product. The converter and its product. Electrolytic refining. The final product. The by-products —arsenic, gold and silver. The sulphuric acid plant at Anaconda. Uses of copper. Possible extension of its uses. Uses of copper sulphate. The alloys, brass and bronze.

2. **Optional**

Bornite. Covellite. Azurite. Metallurgy of native copper, the oxide, and the carbonate. Copper salts.

L^1. Lead and tin (Two days)

1. **Required**

Lead. Latin name plumbum. Galena. Missouri, Idaho, Montana, Oklahoma, and Utah, as producers. Spain, Germany, and Australia as foreign producers. The lead smelter at Helena, Montana. Properties and uses of lead. Use in plumbing, alloys, storage batteries, shot, and lead compounds. Manufacture, formula, and uses of white lead. Advantages of white lead paints over zinc paints. Poisonous properties of lead compounds.

Tin. The sources of tin. Unfortunate lack of tin in the United States. Small production in Alaska. Cassiterite. Properties and uses of tin. Tin cans. Tin plate. Tin foil. Tin alloys. Tin compounds as mordants. Weighting silks. Necessity of a supply of tin.

2. **Optional**

Metallurgy of lead. The salts of lead. The oxides of lead. The storage battery. Manufacture of lead shot. Metallurgy of tin. Recovery of tin from tin cans and other scrap. Gray tin. Making of pins. Tin salts.

M^1. Radium and radioactivity

Optional

Required Experiments and Demonstrations

1. Simple chemical changes
2. Changes in weight on heating elements in air
3. Mixtures and compounds
4. Decomposition of compounds (mercuric oxide)
5. Oxygen, its preparation and properties (potass, chlorate)
6. Decomposition of water by sodium (demonstration)
7. Preparation and properties of hydrogen
8. Reduction of oxides by hydrogen (demonstration)
9. Preparation and properties of carbon dioxide
10. Components of the atmosphere
11. Percentage of oxygen in air (demonstration, or by groups)
12. Reacting weight of a metal
13. Preparation and properties of chlorine (demonstration)
14. Preparation and properties of hydrochloric acid
15. Test for chlorides

16. Acids, bases, and salts
17. Determination of concentration of acid and base by titration
18. Weight of a liter of oxygen
19. A study of sulphur
20. Oxides of sulphur, and their corresponding acids. Test for sulphates.
21. A study of solutions
22. Temperature and solubility
23. Water of hydration
24. A study of colloidal condition
25. Preparation and properties of ammonia
26. Preparation and properties of nitric acid
27. Conductivity of substances in solution (demonstration)
28. Types of chemical reactions
29. Sodium carbonate and bicarbonate
30. Flame tests for sodium and potassium compounds
31. Preparation of bromine, its properties, and uses
32. Preparation, properties, and uses of iodine
33. Distillation of wood and coal
34. Simple hydrocarbons, methane, and acetylene
35. Preparation of a soap
36. Hard water, properties, and treatment
37. Aluminum hydroxide, preparation, uses (water treatment, dyes)
38. Borax bead tests
39. Iron compounds, and blue prints
40. Cobalt nitrate tests for metals
41. Identification of metals by bead and cobalt nitrate tests
42. Silver compounds, their relation to photography
43. Separation of lead, silver, and mercury
44. Displacement series

In addition to the above, the following is a list of highly desirable experiments, from which the instructor, with the aid of his pupils, can select a number that will prove of great value to the pupils:

45. Determination of the formula for tin oxide
46. Study of hydrolysis
47. Copper plating (especially for those who have not had physics)
48. Exercises with standard solutions
    a. Testing acidity of vinegar
    b. Testing acidity of cream of tartar
    c. Testing purity of baking soda
    d. Testing acidity of orange or lemon juice
    e. Determination of acidity of milk
49. Determination of butter fat in milk
50. Examination of foods
    a. For protein
    b. For glucose
    c. For starch
    d. For minerals
    e. For preservatives (formalin and boric acid)
51. Fermentation of sugar
52. Preparation of simple esters

VI. Laboratory Equipment

Probably the most expensive single article of equipment in the secondary science field is the laboratory desk. While it is true that good work can be done with almost any sort of makeshift bench or table, it is probably more economical to install a first class article in the beginning. Also, since in all the modern types of tables made by reliable firms, adequate space is provided for safe storage of apparatus, thus eliminating much breakage of glassware, it is doubtful if any but the best should be installed. The exact type of table selected will depend of course upon the service it is expected to render; that is, whether other science classes are to use it, number of pupils to be accommodated, etc. Expert advice can be had for the asking, from any of the several companies employed in the construction of laboratory furniture; as for example, the Kewaunee Company or the Shelton Company.

In planning a new laboratory, the mistake of not providing storage space sufficient to meet the needs of the present and the future should be avoided. All chemicals, all glassware, and special pieces of demonstration apparatus, should be kept in a wall cabinet fitted with glassed-in doors and good locks, away from dust and dirt, as well as from the unauthorized use by pupils. A predominant idea in the arrangement of these cabinets should be that the laboratory is a workshop, where teacher-time is valuable, and should be conserved by convenience of arrangement.

In addition to the work tables and storage cabinets, space should be reserved along at least one wall for a weighing shelf. This should be of solid construction and, like the tables, finished in black acid-proof stain. If stools are to be used during the weighing, the shelf should be the height of an ordinary table; if the weighing is to be done standing, the height should be 40 inches. Above the shelf, and extending its full length, should be a narrow shelf to contain the materials for daily use. These materials should be put in the storage cabinets or stockroom as soon as the class has finished with them. All other chemicals should at all times be kept under lock and key, to avoid possible injury through ignorance of their nature, and also to prevent needless waste.

In ordering glassware, an allowance of about 25% should be made to take care of unavoidable breakage that will occur during the year. All requests for apparatus and supplies should be made to the principal or board of trustees before the close of the spring term, as in this way better prices and better service can be obtained. This will also insure that all will be in readiness for the opening of school in the autumn.

The science teachers should be required to make a careful and accurate check of all apparatus and supplies, at least once a year, preferably at the close of the spring term. In this manner the principal and the board of trustees will be kept informed as to the condition of the laboratory. It would be well not to keep on the laboratory shelf apparatus which has become useless; the laboratory should be kept up to its greatest efficiency, so that teacher and pupils will respect it more. The teacher must insist on care in using all apparatus, reminding students that it cost money, and that others will want to use it in other classes. Nothing, in the opinion of the committee, so visibly marks the teacher of science a success or failure as the degree of system and orderliness in his laboratory.

The following list includes the essential individual and general apparatus, for which the pupil is held personally responsible, and for the use of which he should be required to make a small deposit, returnable to him at the end of the course, less breakage. The prices are from the latest quotations of a large supply house (1931).

Required General Apparatus (For class of ten)

Quantity Recommended	Description	Approximate Price
2	**Balances,** Harvard Trip	$ 24.00
2	**Sets of Weights,** 1 gm to 100 gm	4.00
5	**Jars, Stoneware,** purchased at local store (2 gal.)	
35	**Reagent Bottles,** 4 oz., 5 each of following: HCl, con.; H_2SO_4, con.; HNO_3, con.; HCl, dil.; H_2SO_4, dil.; HNO_3; NH_4OH	15.00

Quantity Recommended	Description	Approximate Price
2	Bar Magnets, 6 in.	.70
1	Chart of the Elements	5.00
1	Set Cork Borers	.50
1	Water Still	30.00
2	Tripod Magnifiers	1.60
5	Thermometers, -10 to 110° cent.	5.00
1	Tin Snips, 1 pair	2.50
1	Book Chemical Labels	.50
2	Boxes of Labels, Dennisons No. 2004	.50
2	Graduates, 1000 cc	3.20
12	Medicine Droppers	.30
1	Iron Mortar and Pestle, 1 qt.	1.25
2 ℔	Glass Tube, 5 mm	1.50
5	Beakers, Pyrex, 1000 cc	2.50
1	Gross Test Tubes, 6x¾ inch	3.50
12	Test Tubes Pyrex Ignition, 150 mm	2.00
		$135.55

Very Desirable General Apparatus

Quantity Recommended	Description	Approximate Price
2	Chemical Balances with Weights	70.00 up
1	Drying Oven	8.00
1	Volumetric Flask, 2000 cc	1.50
1	Volumetric Flask, 1000 cc	1.25
1	Kipp Generator for H_2S	8.50
1	Spectroscope, direct vision	18.00
36	Reagent Bottles, no label, 8 oz.	15.00
1	Blast Lamp and Bellows	14.50
1	Mercurial Barometer	18.00
1	Hoffman's Apparatus	5.00
5	Gas Measuring Tubes, 50 cc	5.00
5	Hydrometer Jars, 15 by 2 inches	3.00
1	Babcock Milk Tester, complete	7.00
10	Burettes, Pinch Cock Form, 50 cc	10.00
		$184.75

Individual Apparatus

Quantity Recommended	Description	Approximate Price
1	Pyrex Beaker, 150 cc	.23
1	Pyrex Beaker, 250 cc	.25
4	Wide Mouthed Bottles, @ .10	.60
1	Evaporating Dish, No. OA	.20
1	Flask, Pyrex, 250 cc	.22
1	Funnel, 75 mm	.34
1	Thistle Tube	.15
3	Glass Squares, 3x3 inches	.15
1	Graduate, 25 cc	.60
1	Mortar and Pestle, No. 0	.27
1	Rubber Stopper, No. 4, one hole	.05
1	Rubber Stopper, No. 4, two hole	.05
1	Rubber Stopper, No. 2, one hole	.05
1	Rubber Stopper, No. 7, two hole	.10
1 ft.	Rubber Tube, $\frac{3}{16}$ inch	.12
1	Gas Burner Tube, ¼ inch	.30
1	Test Tube Brush	.06
1	Bunsen Burner, simple	.35
1	Wing Top for Burner	.15
1	Test Tube Clamp, Stoddard	.14
1	Pinch Cock, Mehr, 2¾ inch	.22
1	Package Filter Paper, 10 cm	.14
1	Wire Gauze, 4x4 inch	.10
1	Ring Stand, two rings	1.00
1	Test Tube Rack, six tube	.60
1	Deflagrating Spoon	.13
1	Pair Tongs, Crucible, 9 inch	.18
1	Pneumatic Trough, 4x7x10 inches	.85
1	Vial Litmus Paper, Red	.10
1	Vial Litmus Paper, Blue	.10
1	Universal Clamp	1.50
		$9.30

Apparatus to be Drawn from Stock as Needed

Quantity Recommended	Description	Approximate Price
5	Condensers, Liebig's, 10 inch	5.00
10	Cobalt Blue Glass, squared, 4x4 inch	2.50
20 ft.	White Rubber Tube, $\frac{1}{4}$ inch	2.40
		$9.90

Necessary Chemicals (For class of ten)

4 oz.	**Acid Acetic** C. P. Glacial
6 lbs.	**Acid Hydrochloric** Technical Concentrated
7 lbs.	**Acid Nitric** Technical Concentrated
4 oz.	**Acid Oxalic** Technical Crystals
9 lbs.	**Acid Sulphuric** Technical Concentrated
4 oz.	**Acid Tartaric** U. S. P. Crystals
1 gal.	**Alcohol Ethyl** Denatured 95%
1 lb	**Aluminum Potassium Sulphate** Technical Crystals
4 oz.	**Aluminum Metal** Turnings
1 lb	**Aluminum Sulphate** Technical Cyystals
1 lb	**Ammonium Chloride** Pure White Granular
4 lbs.	**Ammonium Hydroxide** Technical Concentrated
1 lb	**Ammonium Nitrate** Pure Granular
1 lb	**Ammonium Sulphate** Technical
1 lb	**Ammonium Sulphide** C. P. Solution Light
1 lb	**Barium Chloride** Technical Crystals
4 oz.	**Barium Dioxide** C. P. (Peroxide)
5 lbs.	**Calcium Carbonate** Marble Chips
1 lb	**Calcium Chloride** Technical Anhydrous
1 lb	**Calcium Oxide** Technical Lumps (Quicklime)
1 lb	**Calcium Sulphate** Native Gypsum Lumps
1 lb	**Carbon Bisulphide** Pure
1 lb	**Carbon Tetrachloride** Pure
5 lbs.	**Cement** (Portland) Pure
1 lb	**Charcoal** Wood Lumps
1 lb	**Charcoal** Animal Powder
1 oz.	**Cobalt Nitrate** Pure
1 oz.	**Copper Oxide** Technical Powder
1 lb	**Copper Sulphate** Technical Crystals
1 lb	**Copper Metal** Turnings
1 lb	**Dextrose** Pure Granular (Glucose)
4 oz.	**Fehling's Solution A**
4 oz.	**Fehling's Solution B**
1 oz.	**Gelatine Ground**
4 oz.	**Glycerine** U. S. P.
4 oz.	**Hydrogen Peroxide** U. S. P.
1 oz.	**Iodine** U. S. P. Resublimed
1 lb	**Iron Metal** Filings Fine
1 lb	**Iron Sulphate** (Ferric) C. P.
1 lb	**Iron Sulphate** (Ferrous) Technical Crystals
1 lb	**Iron Sulphide** (Ferrous) Lumps
1 gal.	**Kerosene**
1 lb	**Lead Metal** Foil
1 lb	**Lead Acetate** U. S. P. Powder
4 oz.	**Lead Nitrate** Technical
4 oz.	**Magnesium Carbonate** U. S. P. Powder
10 ft.	**Magnesium Metal** Ribbon
1 lb	**Magnesium Sulphate** U. S. P. Crystals
1 lb	**Manganese Dioxide** Native Powder
4 oz.	**Mercury Metal** Virgin Grade (Quicksilver)
1 lb	**Paraffin** Solid
1 oz.	**Phosphorus** Yellow Sticks
4 oz.	**Potassium Bromide** U. S. P. Granular
1 lb	**Potassium Chlorate** U. S. P. Crystals
4 oz.	**Potassium Chloride** Pure
4 oz.	**Potassium Ferricyanide** Pure Crystals
4 oz.	**Potassium Hydroxide** U. S. P. Sticks
1 oz.	**Potassium Iodide** U. S. P.
4 oz.	**Potassium Permanganate** U. S. P.
4 oz.	**Potassium Sulphate** Pure White
1 oz.	**Sodium Arsenite** C. P.
1 oz.	**Silver Nitrate** C. P.
1 lb	**Sodium Bicarbonate** Powder
1 lb	**Sodium Borate** U. S. P. Crystals (Borax)
1 lb	**Sodium Carbonate** Technical Crystals
1 lb	**Sodium Chloride** Fine White (Salt)
1 lb	**Sodium Hydroxide** Technical Granular
1 oz.	**Sodium Metal**
1 lb	**Sodium Nitrate** Pure Crystals
1 lb	**Sodium Phosphate** Dibasic Technical Crystals

1 qt.	**Sodium Silicate** Solution Technical
1 ℔	**Sodium Sulphate** Technical Crystals
1 ℔	**Starch** Corn
1 ℔	**Sucrose** Pure (Sugar)
1 ℔	**Sulphur** Roll
1 oz.	**Tin Metal** Pure Mossy
1 ℔	**Zinc Metal** Technical Mossy
	Ores, textiles, iron, soaps, and baking powders of various kinds

Additional Desirable Chemicals (For class of ten)

4 oz.	**Acid Arsenous** Technical Powder
4 oz.	**Acid Boric** U. S. P. Crystals
1 ℔	**Ammonium Carbonate** U. S. P. Lumps
1 oz.	**Ammonium Molybdate** C. P. Crystals
4 oz.	**Antimony Metal** Powder
4 oz.	**Antimony Chloride** (Antimonic) C. P. Juming
1 oz.	**Antimony Chloride** (Antimonous) C. P.
1 oz.	**Arsenic Metal** Crystals
1 ℔	**Asbestos** Short Fibre
1 ℔	**Barium Sulphate** Technical Powder
1 oz.	**Bismuth Metal** Lump 98%
1 oz.	**Cadmium Metal** Sticks
1 ℔	**Calcium Carbide** Technical
1 ℔	**Calcium Fluoride** Technical Powder
4 oz.	**Chloroform** U. S. P.
4 oz.	**Chromium Chloride** C. P. Crystals
1 oz.	**Cobalt Chloride** Pure
4 oz.	**Copper Chloride** (Cupric) C. P.
4 oz.	**Copper Nitrate** (Cupric) Pure
4 oz.	**Copper Sulphide** (Cupric) C. P.
4 oz.	**Iron Chloride** (Ferric) U. S. P.
1 oz.	**Mercury Oxide** (Mercuric) U. S. P. Red
1 oz.	**Mercury Nitrate** (Mercurous) C. P.
1 pt.	**Oil Cottonseed**
1 oz.	**Phenolphthalein** U. S. P.
4 oz.	**Acid Phosphoric** U. S. P.
4 oz.	**Phosphorus** Red Amorphous
4 oz.	**Potassium Bitartrate** U. S. P. Powder
4 oz.	**Potassium Chromate** Pure
1 ℔	**Potassium Nitrate** Pure
4 oz.	**Sodium Acetate** Technical Crystals
1 ℔	**Sodium Hyposulphite** Pea Size Crystals
1 oz.	**Strontium Chloride** Pure
4 oz.	**Zinc Acetate** C. P.

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Crocker and Matthews, Theoretical and Experimental Physical Chemistry. The Macmillan Company, San Francisco

Davis, The Story of Copper. The Century Company, Chicago

Farnham, Profitable Science in Industry. The Macmillan Company, San Francisco

Findlay, Treasures of Coal Tar. D. Van Nostrand and Company, 8 Warren Street, New York

Foster, Romance of Chemistry. The Century Company, Chicago

Fuller, The Story of Drugs. The Century Company, Chicago

Greer, The Reign of Rubber. The Century Company, Chicago

Hadfield, Metallurgy and Its Influence on Modern Progress. D. Van Nostrand, 8 Warren Street, New York

Howe, Chemistry in the World's Work. D. Van Nostrand, 8 Warren Street, New York

Howe and Turner, Chemistry and the Home. Chas. Scribner's Sons, 320 E. 21st Street, Chicago

Harrow, Eminent Chemists of Our Time. D. Van Nostrand, 8 Warren Street, New York

Moore, A History of Chemistry. McGraw-Hill Book Company, 370 Seventh Avenue, New York
Mendel, Nutrition, The Chemistry of Life. Yale University Press, New Haven, Connecticut
Norris, Principles of Organic Chemistry. McGraw-Hill Book Company, 370 Seventh Avenue, New York
Philips, Romance of Modern Chemistry. J. B. Lippincott Company, 2244 Calumet Avenue, Chicago
Redwood, Petroleum, Its Products and Uses. D. Van Nostrand, 8 Warren Street, Chicago
Sadtler, Chemistry of Familiar Things. J. B. Lippincott Company, 2244 Calumet Avenue, Chicago
Slosson, Creative Chemistry. The Century Company, Chicago
Slosson, Keeping Up With Science. Harcourt, Brace and Company, Chicago
Snell, Elementary Household Chemistry. The Macmillan Company, San Francisco
Tilden, Chemical Discovery and Invention in the Twentieth Century. E. P. Dutton and Company, 611 Fifth Avenue, New York

B. College textbooks

Cady, General Chemistry. McGraw-Hill Book Company, 370 Seventh Avenue, New York
Foster, Introduction to General Chemistry. Princeton University Press
Gordon, Introductory College Chemistry. World Book Company, Chicago
Newell, College Chemistry. D. C. Heath and Company, Chicago
Smith and Kendall, College Chemistry. The Century Company, Chicago

C. Dictionaries and encyclopedias

Condensed Chemical Dictionary. The Chemical Catalog Company, 419 Fourth Avenue, New York
Hackh, Chemical Reactions and Their Equations. P. Blakiston's Son and Company, Philadelphia

D. High school texts

Black and Conant, Practical Chemistry. The Macmillan Company, San Francisco
Brownlee and Others, First Principles of Chemistry. Allyn and Bacon, San Francisco
Brownlee and Others, Chemistry of Common Things. Allyn and Bacon, San Francisco
Bruce, High School Chemistry. World Book Company, 2126 Prairie Avenue, Chicago
Currnes, A New Qualitative Analysis. Miner Publishing Company, Macomb, Illinois
Fletcher, Smith and Harrow, Beginning Chemistry. American Book Company, Chicago
Emery and Others, Chemistry in Everyday Life. Lyons and Carnahan, Chicago
Frank, A Brief Outline of Qualitative Analysis. J. O. Frank, Oshkosh, Wisconsin
Gray, Sandifur, Hanna, Fundamentals of Chemistry. Houghton Mifflin Company, Boston
Irwin, Rivett, Tatlock, Beginning Chemistry and Its Uses. Rowe, Peterson and Company, Evanston, Illinois
McPherson, Henderson and Fowler, Chemistry for Today. Ginn and Company, Chicago
Newell, General Chemistry. D. C. Heath and Company, Chicago

E. Tests

Columbia Research Bureau Chemistry Test
    Form A ($1.50 per package of 25 with Manual, Key, and Class Record)
    Form B (price as above)
    Specimen set (20c postpaid)
Ginn and Company
    The Harvard Tests in High School Chemistry (H. Gerry)
    Forms A and B (80c per package of 30, either form, with Manual, Key, and Class Record)
Public School Publishing Company, Bloomington, Illinois
    Rich's Chemistry Test, Gamma ($1.00 per package of 25)
    Rich's Chemistry Test, Epsilon ($1.00 per package of 25)
    Rich's Chemistry Test, Teachers Manual (15c each)
    Persing Laboratory Chemistry Test
        Form A ($1.00 per package of 25)
        Form B ($1.00 per package of 25)
        Sample set (one form, 15c)
The Educational Test Bureau, Inc., Minneapolis, Minnesota
    Iowa Placement Examination, Chemistry—Training
    Form A and B (90c per package of 25, either form, with Manual, Key, and Class Record)
    Measurable Outcomes of Individual Laboratory Work in High School Chemistry (Horton)

PART FIVE—PHYSICS

I. General Considerations

Physics is undoubtedly the most firmly entrenched and the best standardized of all the science courses commonly found in the high school program. After some introductory study of such topics as states of matter, definitions, and physical measurements, the course quite regularly progresses to mechanics; then follow in various sequences units on heat, sound, light, magnetism, and electricity.

The very fact of such standardization leads to fear that form, logical organization, and tradition rather than pedagogical principles may determine content and methods. That such fear is not unfounded may be judged from the statements of the N. E. A. Committee on Reorganization of Science in Secondary Schools that many of our physics courses have sacrificed the interest of pupils to logical arrangement of traditional and sometimes out-of-date material, that laboratory work too often has been submerged or has been unsatisfactorily correlated with recitation, and that physics courses have not functioned as they should in helping pupils to understand higher types of vocations in which physics is fundamental. The teacher of physics needs to recognize a danger of over-standardization and uniformity in the material of his subject.

II. Objectives

The most important major objectives in high school physics study are those of efficient home membership, preparation for vocational usefulness, and worthy employment of leisure time. In our day utilization of electrical and mechanical appliances and of internal combustion engines is so general that a knowledge of physics is highly advantageous in one's daily activities; the vocational value of physics, especially to all forms of engineering and to many of the trades, is more generally accepted than that of any other science with the possible exception of chemistry; the leisure time objective finds realization here no less than the other sciences.*

III. Procedure

On account of mathematical computations needed in every physics course, a year of algebra should be a prerequisite to registration for high school physics. It is desirable that pupils should have had two years of mathematics exclusive of arithmetic before taking up physics. Since some of the material included in physics courses parallels content taught in general science and chemistry, it is recommended that pupils who have already studied these sciences be in physics given enough of the material for a thorough review and that they be assigned individual projects of an advanced nature whenever material duplicating earlier courses is encountered.

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*For a detailed discussion of physics objectives see John H. Dyer's **An Analysis of Certain Outcomes in the Teaching of Physics in Public High Schools**, University of Pennsylvania, Philadelphia. (1927.)

A. Emphasis within the course

It is recommended that no physics course drop below the following minimum time allotments in the various major fields of physics instruction: Mechanics, 8 weeks; heat, 3 weeks; magnetism and electricity, 6 weeks; sound, 2 weeks; light, 3 weeks. It will be observed that these minimum time requirements total 22 weeks; allowing two weeks for reviews, examinations, and such other interruptions of regular classroom work as may occur, there will still remain 12 weeks of a 36-week school year for special instruction suited to the individual conditions of any given local situation.

B. Field trips

Field trips are essential and important parts of a physics course. Some localities offer more opportunities for such excursions than do others, but every community has activities and industries which may be utilized for practical study of physical processes and phenomena.* Among field trips which will be found possible in various sections of Montana are the following:

For study of mechanics:
City water works
Weather bureau
Hayloading devices
Irrigating systems
Machine shop
Roundhouse
Creamery
Sugar factory
Garage

For study of heat:
Creamery, sugar factory, or roundhouse (steam engines)
Heating plants of various kinds
Artificial ice plant
Ore smelter
Fire department
Garage

For study of electricity:
Telephone office
Telegraph office
Dental office
Electric light station
Transformer station
Electric railway power station
Electric shop
Radio shop
Garage

For study of sound:
Music shop
Radio shop
Fire department
Garage

For study of light:
Electric light station
Electric shop
Optical shop
Garage

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*Special attention is called to the discussions of values and abuses of field trips given in Part I (p. 227) and Part II (p. 242).

IV. Content

Plan of the Course

The plan of listing required and optional topics already followed in the chemistry course is also employed in the physics syllabus. Many of the optional topics are elaborations of those listed as required; frequently they are practical illustrations of principles studied; sometimes they are repeated where their nature is such as to call for explanation in connection with two or more principles. In all of these cases it will be understood that the instructor is to exercise his judgment regarding which optional topics to take up and the time when they are to be introduced. From statements in other science courses contained in this bulletin, it will be apparent that there is no intention of ignoring practical devices, applications, and inventions. On the contrary, no high school course in science can be considered satisfactory unless many of these are included. Their number in physics, however, is so large that it is necessary to choose; they have been listed as optional in order that choice may be unhampered.

The order of topics should be considered as suggestive only and should be changed whenever it appears desirable to do so. An interesting and worthwhile suggestion has been made that the early part of the course could be varied and improved if the traditional work on metric measurements were postponed and some of the phenomena of physics were presented in terms of units, nomenclature, and terminology familiar to the pupil. Specifically this suggestion contemplates opening the course with the work on Hooke's law, the three laws of motion, parallelogram of forces, and measurements of friction, work and power; all computations would be made in units of the English system. Following this approach, the metric system would be introduced and made clear through review of some of the experiments already performed.

The Uniform Course

Note: Topics starred are intended for laboratory work. Many of the other topics should be taught with the assistance of laboratory experimentation—the more of such taught the better. It is not intended that a double period should be given to each experiment; many starred topics will occupy less than a forty-minute period.

Required and Optional Topics of the Uniform Course

A. Introduction

1. **Required**
   Measuring of length, area, capacity, and weight by the English and metric systems and comparing results.* Problems on translation from one system to the other.
2. **Optional**
   The standard meter and standard kilogram.

B. Absorption and diffusion

1. **Required**
   Absorption of gases in liquids and in solids.* Diffusion of gases and liquids.* The molecule and the kinetic theory of gases.

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*Items marked thus are suitable for laboratory work.

2. **Optional**

The three states of matter. Physical qualities of matter. Absorption of air in water, of carbon dioxide in water, of ammonia in water, of carbon dioxide in charcoal, of hydrogen in platinum. Diffusion of illuminating gas, ammonia, and perfume into air and of sulphuric acid in water.

C. Forces exerted by molecules on one another

1. **Required**

Definition and illustrations of surface tension, cohesion, adhesion, and capillarity.* Hooke's law.

2. **Optional**

The water beetle. How drops are formed. The making of lead shot. Why a greased needle floats on water. Soap films. Oil on rough waters. Adhesive substances. Capillary tubes. Capillarity in wicks, blotters, sponges, towels, etc. Water rising in loose and in packed soil. Stresses and strains. Application of Hooke's law to tension of a piece of wire. Elastic limit. Breaking strength. Factor of safety. Commercial testing machines. Stress-strain curve. Plotting of stress-strain curves. Problems involving application of Hooke's law. Detailed study of molecular physics.

D. Liquid pressure

1. **Required**

Levels of liquids in connected vessels. City water systems. Upward, downward, and sidewise pressures in open containers.* Pressure of confined liquids. Pascal's law.

2. **Optional**

Water gauge on boiler. Artesian wells. Faucets. The S-trap. Hydrants, standpipes. Water meter. Water motor. Pelton water wheel. Turbine water wheel. Bourbon water pressure gauge. Mercury water pressure gauge. Hydrostatic paradox. Pascal's vases. Problems on downward pressure and downward force. Water pressure in the ocean. Diving. Problems on sidewise pressure and sidewise force. Blaise Pascal. Hydraulic press. Hydraulic chair. Hydraulic jack. Hydraulic elevator. Hydraulic brakes. Problems involving advantage secured by the use in hydraulic appliances of pistons of varying sizes.

E. Buoyancy of liquids

1. **Required**

Archimedes' principle. Buoyancy exerted on bodies sinking in water. Buoyance applied to floating bodies. Use of overflow can.* Density. $D = \frac{W}{V}$ Derived formulas. Specific gravity. One method of calculating specific gravity for solids.* One method of calculating specific gravity for liquids.* The hydrometer and its uses.* Specific gravity table. Specific gravity problems.

2. **Optional**

Archimedes. The submarine. Boats. Floating dry dock. Life preserver. Water-tight compartments. Buoys. The float valve in a tank. Problems involving buoyancy exerted upon floating craft loaded and not loaded. Problems involving density-weight-volume relations. Specific gravity flask. The lactometer. Calculating specific gravity for solids by: (1) weighing an amount of water equal in volume to a given solid; (2) weighing the solid in air and then weighing it in water; (3) attaching a sinker to a solid which is lighter than water and then proceeding as above; (4) measuring geometrical solids. Measuring specific gravity for a liquid by: (1) weighing a bottle empty; then weighing it filled with water, and then weighing it filled with the liquid; (2) weighing a solid in air, then in water, then in the liquid; (3) balanced column method.

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*Items marked thus are suitable for laboratory work.

F. Air pressure

1. Required

Demonstration that air occupies space and has weight.* A vacuum. Normal air pressure. The lift pump.* The siphon.* The mercurial barometer.* The barometer and altitude. The barometer and weather forecasting.* Aneroid barometer. Boyle's law.* Problems involving pressure-volume relations.

2. Optional

Principle of the vacuum pump. Vacuum cleaning system. The vacuum cleaner. The self-filling fountain pen. The pneumatic inkstand. Determining the weight of air. The Magdeburg hemispheres. Otto von Guericke. Evangelista Torricelli. History of invention of the mercurial barometer. Constructing, calibrating, and recording results of a mercurial barometer. The barograph. Weather maps. U. S. Weather Bureau. Robert Boyle. The air compressor. Air brake. Door check. The air spring. Air rifle. Diving bell. Caisson. Pneumatic riveter. Pneumatic drill. Sand blast. Force pump. Steam pump. Fire engine. Gasoline filling station pump. Tire pump. Tire gauge. Cartesian diver. Aspirating siphon. Intermittent siphon.

G. Buoyancy of air

1. Required

Archimedes' principle. Balloons. The lift of a balloon.

2. Optional

Dirigibles; gases used in balloons. Airplanes. Instruments for recording altitude.

H. Composition and resolution of forces

1. Required

Principle of parallelogram of forces.* Equilibrant, resultant, and component with problems.

I. Acceleration and gravitation

1. Required

Force, velocity, acceleration, time. Problems on velocity-acceleration-time relations under constant acceleration ($V = at$). Average speed. Distance covered. Problems on these relations ($S = \frac{1}{2} at^2$). The force of gravity. Acceleration of freely falling bodies. Acceleration and distance covered by bodies falling along inclined plane.* Problems on falling bodies. The pendulum. Vibration rate of pendulum under varying conditions of weight, amplitude, and length.* Center of gravity and stability.

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*Items marked thus are suitable for laboratory work.

2. **Optional**

Galilei Galileo. The law of universal gravitation. Weight. Gravity and the universe. Tides. Negative acceleration. Trajectories and projectiles. Rifle sights. Pendulum clocks and their adjustment. History of timekeeping devices. Problems on relation of period of vibration to length of a pendulum. The metronome. How stability is secured in automobiles, bicycles, boats, vases, book supports, etc. Center of gravity.

J. Newton's laws of motion

1. **Required**

Inertia. Centrifugal force.* Momentum.* Relation of momentum to the weight of the force applied and the amount of time it is applied. Action and reaction.*

2. **Optional**

Isaac Newton. The cream separator. The sugar centrifugal machine. The centrifugal drying machine. The governor on machinery. Looping the loop. The gyroscope. Centrifugal force acting on heavenly bodies. Poundal and dyne. Problems on measurement of force ($F = \frac{mv}{t}$ or $F = ma$). The "kick" of a gun. The oscillating fan.

K. Energy. Work. Power. Friction

1. **Required**

Potential and kinetic energy. Transformation of energy. Conservation of energy. Work. Foot pound.* Power. Horsepower. Water power. Problems on measurement of work and power. Values and disadvantages of friction.

2. **Optional**

Herman von Helmholtz. James J. Joule. Computing value of kinetic energy ($KE = \frac{1}{2} MV^2$). Perpetual motion and perpetual motion machines. The erg. The Prony brake. Rating horsepower of automobile engines. Rolling and sliding friction. Ball bearings. Lubrication. Coefficient of friction. Efficiency of machines.

L. Simple machines

1. **Required**

The three types of levers.* Wheel and axle as a form of the lever. Principle of moments with problems. Mechanical advantage. Fixed and movable pulley.* Inclined plane.* Wedge as a form of inclined plane. Screw.* Gear wheels.*

2. **Optional**

Illustrations of simple machines: butcher's scale, trip scale, chemical balance, hammers, doors, automobile brakes, automobile jacks, capstan, windlass, derricks, lifting crane, skids, road grades, vices, propellers, jackscrews, micrometer, caliper, automobile transmission, differential and steering mechanism. Differential pulleys. Advanced problems on principle of moments and mechanical advantage.

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*Items marked thus are suitable for laboratory work.

M. Expansion due to heat

1. Required

Expansion of solids.* Varying expansion in a compound bar.* Coefficient of expansion. Problems on expansion of solids. Expansion of liquids.* The principle of the mercurial thermometer. Centigrade and Fahrenheit scales with problems.

Expansion of gases.* Absolute temperature scale. Charles' law. Relations of volume, pressure, and temperature of gases (when temperature is kept constant; when pressure is kept constant; when volume is kept constant). The gas equation and problems.

2. Optional

Ball and ring. Measuring linear expansion. Metallic thermometer. Recording thermometer. Thermostat. Compensation in the balance wheel of a watch. The mercury pendulum. Radiator valves. Expansion in rails and bridges. Expansion of glass. Invar. Coefficient of cubical expansion of solids and of liquids. Calibration of a mercurial thermometer. Testing the freezing and boiling points of a laboratory thermometer. The clinical thermometer. Maximum and minimum thermometer. Expansion of water and density at 4° C. See Division VI of the Chemistry course for material on gases and their measurement. Explosions and expansion. Air thermometer. Standard hydrogen thermometer. The hot-air engine.

N. Sources and theory of heat

1. Required

Sources of heat.* The molecular theory of heat.*

2. Optional

The sun as a source of heat. Heat in the interior of the earth (volcanoes, geysers, hot springs, etc.). Fuel. Review of hydrocarbons. Heat produced by electric current. Friction, percussion, and compression as producers of heat. Fire by friction. Hot box. Tinder box. Pocket cigarette lighter. Review of the molecular theory as studied in other sciences. Count Rumford. John Tyndall.

O. Transmission of heat

1. Required

Conductivity of solids, liquids, and gases.* What convection is and how it operates.* Heating and ventilating.* Heat effects not due to conduction and convection; i.e., to radiation.* How heat reaches us from the sun. Reflection and absorption of heat.* The thermos bottle.*

2. Optional

Illustrations of good or poor conductivity in wooden handles, wire handles, asbestos, Davy's miner's lamp, fur and woolen clothing, fireless cooker, air space in the walls of a house, double windows. How a room is heated by a stove. Hot-air system of heating. Hot water tank for kitchen and bath. Steam heating. How the draft in a chimney is maintained. Value of the draft. Heat economizers. Water-cooling system of an automobile. Window ventilation. Mechanical ventilation. Winds. Temperature on cloudy and on clear winter days. The radiometer. Thermoelectric detectors. The Dewar flask.

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*Items marked thus are suitable for laboratory work.

P. Melting. Freezing. Boiling. Vaporization. Evaporation

1. Required

Melting point of ice and freezing point of water. Solidification and contraction. Expansion of water when freezing.* Heat of fusion of ice.* The principle of boiling. Effect of pressure upon freezing, melting, and boiling points.* Distillation.* Heat of vaporization of water*; relation of this fact to steam heating. Cooling effect of evaporation.* Temperature and rate of evaporation. Humidity and condensation. Low temperatures secured by evaporation and expansion. Manufacture of ice.

2. Optional

Melting and freezing points of liquids other than water. Alcohol in the automobile radiator. Expansion of type metal and cast iron when solidifying. Cooling water below 0° C before allowing it to freeze. Principle of the refrigerator. Cold storage. Heat given out when water freezes. Freezing of ice cream. Freezing mixtures. Boiling points of liquids other than water. Products of distillation of petroleum. Use of vacuum pans in refining sugar and in condensing milk. Pressure cookers. Steam kettles. Vapor system of steam heating. Vacuum system of steam heating. Principle of porous water vessels and canvas water bags. Electric towels. Saturation. Relative humidity. Wet- and dry-bulb thermometers. Dew point. Clouds. Fog. Rain. Snow. Hail. Frost. Air cooling of buildings.

Q. Engines

1. Required

Principle of the slide-valve engine.* Principle of the steam turbine. The four-cycle gasoline engine.* Multiple cylinder internal combustion engines. The carburetor. Diesel engine. Cooling of gas engines. Mechanical equivalent of heat.

2. Optional

Hero's engine. Newcomer's engine. Non-condensing and condensing types of slide-valve engines. Corliss type engine. Compound, triple, and quadruple expansion engines. The uniflow engine. Fire tube boilers. Water tube boiler. Methods for securing drafts. Efficiency of steam engines. DeLaval turbine. Parson's turbine. Advantages of the turbine over the reciprocating steam engine. The jet type carburetor. The two-stroke gasoline engine. Kerosene engines. Air-cooled motor. The Wright whirlwind motor.

R. Magnetism

1. Required

Lodestone and artificial magnets.* Magnetic lines of force.* Repulsion and attraction of poles.* Magnetic induction.* The earth as a magnet. The compass.* Molecular theory of magnetism.

2. Optional

William Gilbert. Magnetic substances. Permeability and reluctance. Preparing blue-prints of lines of force. Declination. Dip of the magnetic needle. Manufacture of permanent magnets. Uses of permanent magnets. Magnetic screen.

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*Items marked thus are suitable for laboratory work.

S. Static electricity

1. Required

Electrification by friction.* Attraction and repulsion of charges.* Positive and negative electricity. Conductors and insulators. The electroscope and charging by induction.* Electrophorus and electrostatic machine. The Leyden jar and condensers in general.* The lightning rod. The electron theory.

2. Optional

Origin of the word "electricity". Distribution of electric charge on a conductor. Ellipsoidal conductor. Commercial condensers and their uses. Electric whirl or tourniquet. Benjamin Franklin and his electrical experiments. Cause of electrification of thunder clouds. Sir Joseph Thomson.

T. Electric currents and electrochemistry

1. Required

Electric currents contrasted with electrostatics. The electron theory applied to electric currents. The one-fluid cell.* The principle of the primary cell. Polarization, its causes and remedies. The dry cell.* Principle of the storage cell. The lead storage battery.* Uses and care of lead storage cells. The principle of electrolysis. Electrolysis of a copper sulphate solution.*

2. Optional

Alessandro Volta. The Daniell cell. The gravity cell. The Laclanche cell. Local action. Laboratory construction and use of various types of cells. The Weston cell. The Edison storage cell. Electrolysis of water. Electroplating. Electrotyping. Refining of metals by electric current.

U. Electric circuits and Ohm's law

1. Required

Open and closed circuits.* Uses of cells for open and closed circuits. Ampere. Volt. Ohm. Explanation of quantity, pressure, and resistance in analogy with water. Ohm's law.* Series circuits with problems based on Ohm's law. Parallel circuits with problems based on Ohm's law. Cells connected in series and parallel.*

2. Optional

Andre Ampere. Georg Ohm. Internal resistance of cells. Results from various series, parallel, and series-parallel arrangements of cells. Resistance of wire. Resistance of conductors connected in series and in parallel. Copper wire table. Effect of temperature upon resistance.

V. Magnetic properties of electric current

1. Required

The magnetic field around a wire carrying an electric current.* The right-hand rule for lines of force.* The solenoid.* The right-hand rule for polarity. The electromagnet.* The magnetic hoist. The electric bell.* The telegraph. The telephone.

2. Optional

H. C. Oersted. Samuel B. Morse. Strength of electromagnets. The circuit breaker. The telegraph relay. A telegraph system. The annunciator. The microphone. The electric printer.

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*Items marked thus are suitable for laboratory work.

W. Measuring electricity

1. Required

Principle of the galvanometer. The ammeter and method of attaching to line.* The voltmeter and method of attaching to line.* The Wheatstone bridge.* The wattmeter. The kilowatt hour. Relation of kilowatt to horsepower.

2. Optional

The D'Arsonval galvanometer. The Weston galvanometer. Measurement of resistance by means of ammeter and voltmeter.

X. Heat from electric current

1. Required

Heating effect of electric current upon various kinds and sizes of wires.* Safety fuses. Electrical household appliances utilizing heat from electric current. Cost of operation of some common electric appliances brought for observation.*

2. Optional

Electric welding. Electric heating. Calculating efficiency of certain household appliances. The carbon arc furnace. The hot-wire meter.

Y. Light from electric current

1. Required

The tungsten lamp.* The carbon arc lamp. The flashlight.

2. Optional

Thomas Edison. The carbon lamp. The vacuum tungsten lamp. The gas-filled tungsten lamp. Cost of operating various types of incandescent lamps. The automatic feed of the electric arc lamp. The metallic arc. The mercury arc.

Z. Induced currents and the generator

1. Required

Production of electric current by electromagnetic induction.* Fleming's rule for direction of induced current. Principle of the generator. Collecting rings and alternating current generator. Commutator and direct current generator. Multi-polar generators. Series, shunt, and compound generators with emphasis upon excitation of fields.* The alternator. The exciter. Cycle. Frequency. Phase. The magneto. Converting alternating into direct current by motor-generator method. The vacuum tube rectifier.

2. Optional

Michael Faraday. Joseph Henry. Lenz's law. Strength of the induced current. Securing steadiness of current. The drum armature. Star and delta connections of alternators. Mercury-arc rectifier.

A^1. Electric motors

1. Required

Similarity of direct current motors and generators.* Torque. Starting box.* The series motor. The shunt motor and its uses.* The watt-hour meter. Rotating magnetic field of the alternating current motor. The induction motor.* The alternating current meter.

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*Items marked thus are suitable for laboratory work.

2. Optional

Fleming's rule for a motor. Lenz's law and back e. m. f. Racing of a series motor. Arrangement of motors in a street car. The compound motor. Efficiency of electric motors. The automobile starter. Synchronous motor. A-c commutator motor.

B^1. Induction coil and transformer

1. Required

Effect of an electromagnet within a coil.* Structure and principle of the induction coil.* Use of the induction coil in an automobile ignition system. Self-induction. Structure and principle of the transformer.* Reasons for stepping voltage up or down.

2. Optional

Function of the condenser with the induction coil. The induction coil and the local battery telephone circuit. Core type of transformer. Shell type of transformer. H-type of transformer. Efficiency of the transformer. Transmission of power. Hydroelectric power.

C^1. Wireless telegraphy. Radio. X-Rays

1. Required

Oscillatory character of an electric spark. Electrical resonance. Detection of electric waves. Sending and receiving of wireless telegraphic signals. Transmission of the human voice instead of code signals. Cathode and X-rays.

2. Optional

James Clerk-Maxwell. Heinrich Rudolf Hertz. Discovery and measurement of Hertz waves. Microphone. Coherer. Crystal detector. Audion. Introduction of the telephone receiver into the circuit. Sending station for wireless telegraphy. Receiving station for wireless telegraphy. Guglielmo Marconi. The two-circuit set. Regenerative circuits. Audio-amplifying circuits. Detailed study of radio. (This subject should not be taken up unless at least two weeks can be given to it and equipment for laboratory observation is available.) Broadcasting. The loud speaker. Lee DeForest. Sparking voltages. Discharges in partial vacuum. Geissler tubes. Crookes tubes. The Coolidge cathode gun. The fluoroscope. Some notion of quantum theory. Television. Talking motion picture projector.

D^1. Nature and qualities of sound

1. Required

Vibrating nature of sound.* Transmission of sound waves.* Transverse and longitudinal waves. Length and amplitude. Velocity of sound. Relations of velocity, wave length, and frequency. Echoes.

2. Optional

John Tyndall. Sound and the human ear. Speaking tube. Megaphone. Loud speaker. Automobile horn. How velocity of sound is measured. Effect of temperature and water vapor on velocity of sound. Sound ranging. Velocity of sound in water. Submarine signaling. Velocity of sound in various solids. Acoustics. Sound foci.

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*Items marked thus are suitable for laboratory work.

E^1. Musical sounds

1. **Required**

Nature of musical sound as distinct from noise. Pitch and the siren.* Loudness and sounding boards.* Quality, fundamental tones, and overtones.* Relation of pitch to length, tension, and weight of a string.* Length, diameter and shape of an open (and of a closed) tube in relation to sound produced.* Resonance and resonators. Musical scale. Chromatic scale. Major and minor chords.

2. **Optional**

Doppler's principle. Koenig's monometric flames. The phonodeik. Principle of various types of stringed instruments. Principle of various types of wind instruments. Study of mechanism of organ or piano. The phonograph. The dictaphone. Sympathetic vibration. Interference. Beats. Discords. The even-tempered scale. Standard, international, and concert pitch.

F^1. Behavior and measurement of light

1. **Required**

Inverted image.* Shadows and eclipses.* Velocity of light. Intensity of illumination and the law of inverse squares.* Candle power. Foot candle. Measuring candle power by photometer.*

2. **Optional**

History of development of the science of light. The pinhole camera. Partial and total eclipses. Olaus Romer. Albert A. Michelson. Methods of determining velocity of light. Johannes Kepler. Proper artificial illumination. The international candle. Robert Bunsen. Bunsen photometer. Rumford photometer. Jolly photometer. Spherical photometer. Foot-candle meter.

G^1. Reflection. Mirrors. Refraction. Lenses. Optical instruments

1. **Required**

Diffuse reflection. Regular reflection and plane mirrors. Angles of incidence and reflection.* Principal focus of a concave mirror.* The convex mirror.* Virtual and real images. Refraction in water and in glass.* Explanation of refraction. Index of refraction. Critical angle.* Convex lens, principal focus and images formed.* The eye. The camera.* The microscope.* The telescope.* The stereoscope.* The periscope. Projection and motion pictures.

2. **Optional**

The kaleidoscope. Use of mirrors by magicians. Cutting of diamonds. The sextant. Spherical aberration. The parabolic mirror. The searchlight. The ophthalmoscope. The automobile headlight. The convex mirror on the automobile fender. Conjugate foci. Lens equations and problems. Chromatic aberration and its correction. Nearsightedness, farsightedness, astigmatism, and glasses. Reading glass. Compound microscope. The spyglass. Construction of telescope by the class. Astronomer's telescope. Manufacture of large lenses. Opera glasses. Binoculars. Magnifying power.

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*Items thus marked are suitable for laboratory work.

H¹. Color and spectra

1. Required

The solar spectrum.* The rainbow. Varying wave lengths of different colors. Primary colors. Complementary colors. Absorption, reflection, and transmission of color.* Interference of light.* The microscope. Fraunhofer lines. Continuous spectra of solids and liquids. Bright-line spectra of gases. Spectrum analysis.

2. Optional

Effects of colored illumination. Mixing of pigments. Color fatigue. Three-color and four-color printing. Christian Huygens. Electromagnetic theory of light. Hertzian, infra-red, light, ultra-violet, and X- rays. Polarization of light. Kirchoff's and Bunsen's work with absorption spectra. Detailed study of spectrum analysis.

The Differentiated Course

A. Mastery of required topics essential

The required topics included in this syllabus have been held to what is considered an absolute minimum. No pupil should earn a passing grade in a Montana high school physics course unless he has a working knowledge of the principles included in the required portion of the uniform course.

B. Optional topics as differentiated work

As mentioned in an earlier paragraph, the required topics should not occupy more than two-thirds of the time in a 36-week school year. Much or all of the remaining time may profitably be given to optional topics listed under the various subjects. If this plan is followed, the optional topics should be treated in their proper relationships to the required work. Under no circumstances should twenty-four consecutive weeks be given to the required part of the course and then twelve successive weeks to optional topics.

C. Suggested subjects for study

If, after accomplishment of the required work and the concomitant completion of such optional topics as seem desirable, there still remains time for additional study, it may be found advantageous to select one or more of the following for detailed study. It will be understood that the instructor and class should feel free to substitute other subjects for those here listed:

Generators and motors
Engines of various kinds
Water power
Weather forecasting
Radio
Radium and radio-activity
The automobile
Aeroplanes and gliders

V. Laboratory Apparatus

A. Apparatus secured from other laboratories

The school in which a physics course is offered usually has a laboratory equipped for the teaching of certain other sciences;

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*Items marked thus are suitable for laboratory work.

however, in preparing the following lists of laboratory apparatus, attempt has been made to include all the materials needed for teaching a satisfactory course in high school physics. Where certain pieces of equipment have already been supplied for the teaching of other sciences, it will not be necessary to duplicate them in the physics laboratory, provided these pieces are available in sufficient quantity for the needs of the physics class.

B. Apparatus lists

Lists A and B contain minimum amounts of apparatus needed for performing ordinary experiments in the physics laboratory. In supplying laboratory materials for differentiation, it will be necessary to draw upon List C. Where physics is being introduced for the first time, it may be found necessary to borrow or construct laboratory apparatus. Generally speaking, it is not educationally profitable or advantageous to borrow or construct apparatus. For this reason, all apparatus needed should be purchased as soon as practicable and in sufficient quantity to allow all members of the class to perform the same experiment at the same time.

List A—Students' Apparatus

Note: The number in the parentheses immediately following the description indicates the maximum number of pupils who may be served by the given amount of apparatus.

Quantity Recommended	Description	Approximate Price
1	**Meter Stick,** graduated to both mm and ⅛" (2)	$ .35
1	**Protractor,** brass, 4½" diameter (1)	.25
1	**Ball, hardwood,** turned and drilled, ¾" diameter (4)	.10
1	**Ball,** lead, drilled, ¾" diameter (4)	.20
1	**Ball,** steel, ¾" diameter (4)	.12
1	**Composition-of-Force Board,** circular, all metal, including three spring balances	4.50
1	**Lever, Knife-Edge Clamp,** for meter stick (2)	.35
1	**Single Pulley,** bakelite, 5 cm in diameter (4)	.70
1	**Double Pulley,** bakelite, 5 cm in diameter (4)	.45
1	**Triple Pulley,** bakelite, each pulley 5 cm in diameter (4)	.65
1	**Inclined Plane,** with pulley (6)	2.25
1	**Hall's Carriage,** frictionless cone bearings, length 17.5 cm (6)	1.50
1	**Steam Generator** (Apparatus A), one-piece boiler, no solder, cast brass gauge connections screwed to the boiler, standard steam-boiler water gauge (6)	4.50
1	**Linear Expansion Apparatus,** with steam jacket and lever arm pointer (6)	4.50
1	**Aluminum Rod,** 60 cm long (6)	.25
1	**Copper Rod,** 60 cm long (6)	.40
1	**Steel Rod,** 60 cm long (6)	.15
1	**Ball and Ring,** to show expansion due to heat	1.50
1	**Calorimeter,** drawn polished aluminum, 12.5 cm high, 7 cm diameter (6)	.85
1	**Bar Magnet,** rectangular, polished steel, 15x1.9x0.7 cm (2)	.70
1	**U-Magnet,** length 14 cm (4)	.60
1	**Compass,** 40 mm diameter (4)	.45
1	**Condenser,** 2 metal plates mounted on wooden blocks (4)	.35
1	**Electroscope,** flask form, with aluminum leaves (6)	.90
1	**Zinc Element,** flat form, 22x125 mm (4)	.05
1	**Carbon Pencil,** 6x125 mm (4)	.10
1	**Copper Element,** flat form, 22x125 mm (4)	.06
1	**Lead Element,** flat form, 22x125 mm (4)	.07
2	**Dry Cells** (dry batteries), standard size, 1.5 volts, 25 amperes on short circuit	1.00
1	**Electrolysis Apparatus,** length over all 40 cm	5.00
1	**Primary and Secondary Coil,** mounted for both vertical and horizontal positions (C) (4)	4.00
1	**St. Louis Motor,** all metal base, spring clip magnet holders, flat adjustable copper brushes (4)	3.50
1	**Electromagnet Attachment** for St Louis Motor, essential for complete dynamo demonstrations (4)	1.25
1	**Galvanoscope,** porcelain compass block with three coils of 1, 10, and 40 turns (6)	1.75
1	**Resistance Box,** total resistance 111 ohms, coils of 0.1, 0.2, 0.3, 0.4, 1, 2, 3, 4, 10, 20, 30, and 40	12.00

Quantity Recommended	Description	Approximate Price
1	**Resistance Coil,** 1000 ohms (8)	.50
1	**Resistance Coil,** 1 ohm (8)	.35
1	**Single-Contact Key,** simple tandem, base 5x15 cm (4)	1.35
1	**Bell,** electric, diameter of bell 2½" (4)	.75
1	**Push Button,** stamped metal, bronze finish (4)	.18
1	**Switch,** knife, single pole, single throw, 15 amperes (8)	.40
1	**Switch,** knife, on porcelain base, single pole, double throw (8)	.55
1	**D'Arsonval Galvanometer,** all metal frame, tripod with leveling screws (6)	6.25
1	**Volt-Ammeter,** D. C., full 5" scale, range 10 volts and 10 amperes, in 0.1 volt div.	18.00
1	**Tuning Fork,** C (256 vibrations), 18.5 cm long (8)	1.65
1	**Tuning Fork,** E (320 vibrations), 17.5 cm long (8)	1.65
1	**Tuning Fork,** G (384 vibrations), 16.5 cm long (8)	1.65
1	**Prism,** equilateral, 25x75 mm (4)	.75
1	**Mirror,** plane, 4x15 cm (4)	.15
1	**Mirror,** concave, 40 mm diameter, 25 cm focus	1.25
2 pr.	**Supports,** metal, for student's optical bench (4)	.50
2	**Lens Supports,** for 5 cm lenses, with support to fit meter stick (4)	.12
1	**Screen Support,** to fit meter stick (4)	.12
1	**Screen,** white Bristol board (4)	.12
1	**Candle Holder,** for 1 candle (2)	.12
1	**Balance,** Harvard Trip, agate bearings, beam weighs 10 g to 0.1 g, sensibility 5 cg (6)	12.00
1	**Spring Balance,** double scale, capacity 64 oz. in 1 oz. div., and 2,000 g in 25 g div. (1)	.85
1 set	**Weights,** brass, in wood block, 1 g to 1000 g, including 1 g, (2) 2 g, 5 g, 10 g, (2) 20 g, 50 g, 100 g, (2) 200 g, 500 g, and 1000 g (6)	8.75
1 set	**Weights,** Universal, with hooks, 10 g to 1 kg, including 10 g, (2) 20 g, 50 g, 100 g, (2) 200 g, 500 g, and 1 kg	3.75
1	**Beaker,** with lip, capacity 250 cc (4)	.21
1	**Bottle,** wide mouth, 8 oz. (4)	.20
1	**Bunsen Burner,** simple form (2)	.35
	If gas is not available, substitute 1 Alcohol Lamp, 4 oz. @ .55	
1	**Wing Top,** brass (2)	.15
1	**Clamp,** burette (2)	.55
1	**Flask,** round bottom, 250 cc (4)	.21
1	**Funnel,** glass, 75 mm diameter (4)	.34
1	**Gauze,** iron wire, 20 mesh, 5"x5" (2)	.10
1	**Graduate,** cone shape, Metric and English graduations, 8 oz., 250 cc (6)	1.50
3 ft.	**Rubber Tubing,** white, $\frac{3}{16}$" diameter $\frac{3}{64}$" wall (4)	.36
1 pc.	**Tubing,** gas, flexible steel, ¼" diameter, 24" long (2)	.30
1	**Support,** ring stand, with 3 rings (4)	1.50
1	**Thermometer,** engraved scale, -10° to 220° C, length 14" (2)	1.75
	Total for Student's Apparatus	$124.63

List B—General Apparatus

Quantity Recommended	Description	Approximate Price
1	**Caliper,** vernier, Metric and English, reads to 14 cm by 0.1 mm and 5½" by 1/128" (12)	$ 2.50
1	**Plumb Bob,** 5 cm long	.20
1	**Adhesion Disc,** glass, 75 mm diameter	.30
1	**Cohesion Plates Set,** glass, 7.5 cm square, with handles	.75
1	**Capillary Tubes Apparatus,** set of 7, mounted in frame	1.25
1	**Inertia Apparatus,** ball and card form	1.25
1	**Inertia Ball,** with hooks, 75 mm diameter	1.50
1	**Acceleration Apparatus,** inclined plane with circular groove, 2 meters long, 15 cm wide	6.00
1	**Center of Gravity Apparatus,** about 15 cm across	.60
1	**Rotator,** hand form, driving ratio 8 to 1	9.50
1	**Rotator Accessories Set,** recommended minimum for all laboratories, consisting of: 1 Centrifugal Hoop; 1 Centrifugal Separator; 1 Glass Globe; 1 Centrifugal Force Apparatus; 1 Governor; 1 Combined Siren and Color Disc	20.00
1	**Cartesian Diver**	.40
1	**Siphon,** arms 20 cm and 30 cm long	.30
1	**Boyle's Law Apparatus,** improved all metal mounting, with fixed J tube and meter scale	5.00
1	**Lift Pump,** working model of glass, 37 cm long	1.50
1	**Force Pump,** working model of glass, 37 cm long	1.50
1	**Mason's Hydrometer,** wet and dry bulb thermometers and cistern	4.25
1	**Hydrometer,** for light liquids, 30 cm long	.70
1	**Specific Gravity Bottle,** capacity 50 cc	.80

Quantity Recommended	Description	Approximate Price
1	**Hydrometer Jar,** with lip, 15"x2"	.65
1	**Overflow Can,** nickel-plated brass, 12.5 cm high, 7.5 cm	.90
1	**Battery Jar,** 6" diameter, 8" high	.85
1	**Barometer Tube,** 2 mm bore, sealed at one end	.65
1	**Barometer,** mercurial, metric and English scales and vernier, mercury column entirely exposed	18.00
1 set	**Air Pump Accessories,** recommended minimum, containing: 1 Magdeburg Hemisphere; 1 Baroscope; 1 Bell Jar; 1 Gauge; 1 Bell in Vacuo; Guinea and Feather Tube; 6 Bursting Squares; 1 Wire Guard	42.50
1	**Air Pump,** exhaust and compression	4.50
1	**Air Pump Plate,** lathe-turned surface, 21 cm diameter	6.00
1	**Bell Jar,** straight form, knob top, capacity 1 gal.	3.25
1	**Air Thermometer Bulb,** 5 cm diameter, stem 30 cm long	.20
1	**Conductometer,** four rods mounted to show conductivity rate in brass, aluminum, iron, and copper	.75
1	**Unequal Expansion Bar,** 30 cm long	.75
1	**Thermos Bottle,** pint	2.75
1	**Convection Apparatus,** with glass side and chimneys	2.25
1	**Convection of Liquids Apparatus**	1.60
1	**Steam Engine Model,** locomotive type, large size, complete model	6.00
1	**Lodestone**	.25
1x1 lb	**Iron Metal Filings,** finely prepared	.25
1 pkg.	**Blue Print Paper,** pkg. of 24 sheets, 4"x5"	.20
1	**Electromagnet,** dissectible, U-shaped	2.75
2	**Friction Rods,** hollow glass, 25x1.3 cm	.40
2	**Friction Rods,** wax, 25x1.5 cm	.50
1	**Silk Pad,** 20x20 cm	.50
1	**Flannel Pad,** 20x20 cm	.40
1	**Cat Skin,** half skin, about 20x20 cm	1.00
1 pkg.	**Pith Balls,** with silk threads, pkg. of 6, 5 mm diameter	.40
1	**Electrophorus,** small disc 10 cm diameter, hard rubber plate 20x20 cm	1.50
1	**Leyden Jar,** 20x10 cm, capacity 1 qt.	3.25
1	**Discharger,** with rubber handle	1.00
1	**Proof Plane,** nickel-plated brass disc, insulating handle 12.5 cm long	.30
1	**Gotham Demonstration Cell,** with metric etched scale	4.50
1	**Daniell Cell,** quart size	1.00
1	**Bell Ringing Transformer,** for 110-125 volts A. C., 3⅞"x2½"x2"	2.00
1	**Telegraph Key**	2.75
1	**Telegraph Sounder,** Standard Commerical Form, Resistance 5 ohms	3.00
1	**Telephone Receiver,** demonstration form, completely dissectible, resistance 75 ohms	2.25
1	**Telephone Transmitter,** commercial type	2.50
1	**Lamp Board Rheostat,** for 110 volt circuit, includes six lamps from 4 to 50 candle power, individual switches, fuse box, fuses, knife switch, lamp board, and plug	20.00
	(Where commercial current is not available, specify: 1 Lamp Board Rheostat without lamps, $10.00, and 5 Incandescent Lamps, 6 volts, $3.25)	
1	**Wheatstone Bridge,** slide wire form, 1 meter long	6.00
1	**Voltmeter,** A. C., 35 to 150 volts by 1-volt div.	9.50
1	**Ammeter,** A. C., portable laboratory type, bakelite case, dust-proof, 3" scale, 2.5 to 10 amperes net	9.50
1	**Organ Pipe,** all metal, with sliding piston, 90 cm long	7.50
2	**Glass Tubes,** resonance, 4x45 cm	.90
1	**Sonometer,** 2-string, and resonance case	8.25
1 set	**Demonstration Lenses,** 38 mm dia., set of 6	1.75
1	**Mirror,** convex, 40 mm dia., 25 cm focus	1.25
1	**Optical Disc,** etched metal dial, complete with lenses	22.50
1	**Universal Source of Light,** for use with optical disc, sliding rheostat, controlled brilliancy	15.00
1	**Camera Obscura,** or pin hole camera	2.25
	Rubber Stoppers	
1 lb.	**Glass Tubing,** 6.5 mm outside dia	.70
1	**Thermometer,** engraved scale, 10° to 220° F, length 12"	1.25
1 spool	**Copper Magnet Wire,** No. 22, D. C. C., 1 lb. spool (10)	1.30
1 spool	**Copper Magnet Wire,** No. 24, D. C. C., 1 lb. spool (10)	1.65
1 env.	**Co-ordinate Paper,** metric ruled in cm and 2mm, 24 sheets in env., 7¾"x9¾"	.15
*1x9 lbs.	**Acid Sulphuric C. P. Concentrated**	2.00
1x5 lbs.	**Copper Sulphate Technical Crystals**	.80
1x5 lbs.	**Mercury Metal Virgin Grade**	12.00
1x1 lb.	**Sal Ammoniac (Ammonium Chloride) Pure White Granular**	.30
1x1 lb.	**Zinc Sulphate Pure Crystals**	.30
	Total for List B—General Apparatus	$299.30

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*Chemicals marked (*) cannot be shipped by parcel post.

List C—Additional Desirable Apparatus

Quantity Recommended	Description	Approximate Price
1	**Caliper,** combination, outside-inside, 6″ long	$ .50
1	**Caliper,** micrometer, metric, a to 25 mm without ratchet stop	5.50
1	**Liter Block,** with ruled lines, dissectible	4.25
1	**Surface Tension Apparatus**	.70
1	**Hooke's Law Apparatus,** mirror scale, spring, and weight holder (C)	1.50
1	**Wheel and Axle,** bakelite, diameters of wheels in ratios of 1, 3, 5, and 7	3.75
1	**Gear Wheels Apparatus,** wheels 5 cm in dia.	8.00
1	**Jack Screw Model,** range 3 cm, capacity 1000 lbs.	1.50
1	**Metronome** (B)	6.00
1	**Simple Pendulum,** with stand, 3 pendulum bobs, and clamp	4.50
1	**Witch,** 3 cm long	.20
1	**Second-Law-of-Motion Apparatus,** plunger and spring type	3.65
1	**Savart's Toothed Wheels,** four, 7.5 cm dia.	3.25
1	**Constant-Level Apparatus,** 4 tubes, 15 cm high	1.10
1	**Pascal's Vase Apparatus,** improved form. Heavy oil silk diaphragm. Highest accuracy	16.50
1	**Liquid-Pressure Gauge,** convenient manometer-thistle-tube combination showing pressure in all directions	1.35
1	**Hydraulic Press,** working model of glass	2.25
1	**Compression Faucet,** cut away to show working parts, net	4.50
1	**Fuller Ball Faucet,** cut away to show working parts, net	4.50
1	**Archimedes' Pump**	7.50
1	**Specific Gravity Specimens Set,** 10 in set, each about 1 cm	.65
1	**Aneroid Barometer,** metric and English scales, for altitudes up to 3,500′ (for high altitudes a special barometer is needed)	10.00
1	**Vacuum Gauge,** registers from 15 cm downward	14.00
1	**Bacchus Illustration,** two 4 oz. bottles connected by a bent glass tube	.70
1	**Water Hammer,** exhausted tube 25 cm long	1.10
1	**Tyndall's Specific Heat Apparatus,** new form, consisting of 5 balls of different metals, a rod for holding balls, a cake of paraffin, a tin molding pan, and a rectangular support for the paraffin cake	3.75
1	**Pulse Glass**	.90
1	**Maximum Density of Water Apparatus**	6.50
1	**Critical Tube,** to show action at the critical point	1.50
1	**Radiometer,** one set of vanes	2.25
1 pr	**Parabolic Reflectors,** 25 cm dia., mounted on support rod and tripod	13.50
1	**Gas Engine Model,** 4-cycle, with miniature bulb to indicate spark, with poppet valves and mechanism for advancing and retarding the spark	14.50
1	**Lifting Magnet,** commercial form of electromagnet	4.25
1	**Magnetic Needle,** mounted, 15 cm long	.65
1	**Dipping Needle,** 8 cm, mounted with graduated arc	3.50
1	**Toepler-Holtz Static Machine,** stationary glass plate 14″ dia.	35.00
1	**Friction Rod,** vulcanite, 25x1.3 cm	.40
1	**Faraday's Bag,** mounted on insulating stand 15 cm high	1.50
1	**Induction Cylinder,** fitted with 2 rods carrying pith balls	4.00
1	**Ellipsoidal Conductor**	6.50
1	**Electric Whirl,** 10 cm dia.	1.35
1	**X-Ray Tube,** 7 cm bulb	9.00
1	**Geissler Tube,** with fluorescent glass	.75
1	**Gravity Cell,** closed circuit cell, gallon size	1.50
1	**Plunge Battery,** 4 cells, in case with handles	22.50
1	**Storage Battery,** portable type, 6 volts, 60 ampere hours	18.00
1	**Completely Dissectible Dynamo,** wound for 12 volts and 72 watts	80.00
1	**Electric Motor,** color top	1.75
1	**Magneto Electro Generator,** gear driven, mounted on base with incandescent lamp	9.00
1	**Universal Motor,** A. C. or D. C., 110 volts, ⅛ H. P. net	23.50
1	**Transformer,** laboratory type, capacity 150 watts, (if 110 A. C. is available)	7.50
1	**Model Wireless Outfit,** complete demonstration sending and receiving set	18.50
1	**Telegraph Pony Relay,** 20 ohms resistance	4.75
1	**Galvano-Volt-Ammeter,** full 5″ scale, six meters in one, ranges 125 volts, 5 volts, 20 amperes, 25 millivolts, 25 milliamperes, galvanometer scale, glass front, iron case, with adjustable tripod mounting	50.00
1 set	Sympathetic Forks, mounted on highly resonant cases	17.50
1 set	**Acoustic Tubes,** Quincke's, set of 8	3.25
1 set	**Chladni's Plates and Holder**	2.50
1	**Newton's Rings Apparatus**	2.50
1	**Iceland Spar,** medium-sized double-refracting crystal	.35
1	**Photometer, Bunsen's,** including meter stick, suports, gas burner, candle holder, Bunsen box with screen	4.25

Quantity Recommended	Description	Approximate Price
1	**Object and Marker,** to fit meter stick	.12
1	**Refraction Tank**	7.75
1	**Spectroscope,** direct vision form	18.00
1	**Calcium Chloride Tube,** U-form, 10 cm long	.20
1	**Condenser, Liebig's,** glass, 500 mm long (C)	1.40
1	**Funnel Tube,** thistle top, straight stem, 30-cm long	.15
1	**Graduate,** cylindrical, graduated up and down, 500 cc by 5 cc	1.60
1	**Linen Tester,** ¼″ opening	.50
	Total for List C—Additional Desirable Apparatus	$514.32

VI. Bibliography

A. General

Burling and Karweik, Elementary Electric Wiring. The Bruce Publishing Company, Milwaukee
Cajori, The History of Physics. The Macmillan Company, San Francisco
Chemical Rubber Company. Handbook of Chemistry and Physics. West 112th Street at Locust, Cleveland, Ohio
Cressy, All About Engines. Funk and Wagnalls Company, New York
Cressy, Discoveries and Inventions of the Twentieth Century. E. P. Dutton and Company, 611 Fifth Avenue, New York
Darrow, Boys' Own Book of Inventions. The Macmillan Company, San Francisco
De Lano, Applied Electricity. D. C. Heath and Company, New York
Frederick, The Book of Electricity. D. Appleton and Company, New York
Houston, Wonder Book of Light. Frederick A. Stokes, New York
Houston, Wonder Book of Magnetism. Frederick A. Stokes Company, New York
Jackson, Jackson and Black, Elementary Electricity and Magnetism. The Macmillan Company, San Francisco
Keene, Mechanics of the Household. McGraw-Hill Book Company, 370 Seventh Avenue, New York
Lescaboura, Radio for Everybody. Scientific American Publishing Company, 24 West Fortieth Street, New York
Lunt, Everyday Electricity. The Macmillan Company, San Francisco
McCabe, The Marvels of Modern Physics. G. P. Putnam Sons, West 45th Street, New York
Miller, The Science of Musical Sounds. The Macmillan Company, San Francisco
Perry and Buck, Construction of Radio Receiving Sets. Bruce Publishing Company, Milwaukee
Sloane, Liquid Air. N. W. Henley Company, West 45th Street, New York
Slosson, Easy Lessons in Einstein. Harcourt, Brace and Company, Inc., 383 Madison Avenue, New York

B. High school texts

Black and Davis, New Practical Physics. The Macmillan Company, San Francisco
Dull, Essentials of Modern Physics. Henry Holt and Company, Inc., New York
Fuller, Brownlee and Baker, Elementary Principles of Physics. Allyn and Bacon, San Francisco
Hoadley, Essentials of Physics, American Book Company, Chicago
Henderson, The New Physics in Everyday Life. Lyons and Carnahan, Chicago
Lake and Unseld, Brief Course in Physics. D. C. Heath and Company, Chicago
Millikan, Gale and Pyle, Elements of Physics. Ginn and Company, Chicago

C. Tests

Black and Burlingame, Harvard Tests in Elementary Physics. Ginn and Company, Chicago
Camp, Iowa Physics Test. Public School Publishing Company, Bloomington, Illinois
Farwell and Wood, Columbia Research Bureau Physics Test. World Book Company, 2126 Prairie Avenue. Chicago. Forms A and B
Hughes, Physics Scales. Public School Publishing Company, Bloomington, Illinois

PART SIX—PHYSIOGRAPHY

(Physical Geography)

I. Introductory Statement

The following outline is intended to suggest the essentials of a one-half unit course in Physiography for the high schools of Montana. It is expected that this course will be offered in the ninth or tenth grade, preferably in the tenth grade, following General Science or replacing the course in General Science.

No subject touches the life and controls the life of the pupil more than earth science. The popular extension of travel makes it no longer necessary to plead for the place of this subject in a high school. Its vocational aspects are many and varied. The subject of weather is our favorite topic of conversation. An understanding of the varied physiographic and climatic features will make for a better response to Montana's economic possibilities.

II. Aims

A. To acquaint the pupil with the earth features of Montana and the United States, and to give him an idea of their origin
B. To develop the vocational aspect through the study of rocks, minerals, and soils
C. To increase the pupil's leisure time appreciation of earth forms through the study of structure, names, and recognition of minerals and rocks
D. To develop the habit of observation and a scientific attitude
E. To acquaint the pupil with the control which earth forms and climate exercise over civilized man

III. Attainments

If this course is to be used as a one-year course, certain sections will have to be expanded. It is suggested that Sections III, VII, IX, X, XIII, XVIII, and the laboratory and field work should be elaborated. As given in this outline, it is suggested for a semester's work and entitles the student to one-half unit of credit.

IV. Procedure

A. Laboratory and field work

Laboratory and field work are essential parts of this study. Not less than sixty minutes each week should be devoted to this work. This work is local in character and there seem to be no good manuals printed that will fit all conditions in Montana. It is suggested that the instructor secure several manuals and adapt them to the locality. If he is sufficiently experienced he may build his own laboratory work. Some definite aims for this work are:

1. To recognize common minerals and rocks
2. To be able to read and interpret topographic maps
3. To appreciate the development of surface features
4. To understand weather phenomena and interpret weather reports and climate records

B. Laboratory exercises

1. Earth form
2. Effects of earth motions
3. Properties of minerals
4. Igneous rocks
5. Sedimentary rocks
6. Metamorphic rocks
7. Rock-forming minerals
8. Metallic minerals
9. Commercial minerals
10. Weathering
11. Local topographic maps
12. Valley forms
13. Flood plains
14. Delta
15. Alluvial fans
16. Coastal plains
17. Lake plains
18. Folded mountains
19. Volcanoes
20. Glaciers
21. Glacial valley
22. Drumlins
23. Crater lakes
24. Offshore bars
25. Relative humidity and dew point
26. Weather records
27. Physiography of United States

C. Materials

Contour maps may be secured from the United States Geological Survey, Washington, D. C. The Geological Survey prints a circular describing groups of maps arranged especially for this purpose. The cost of these maps is very small.

Nearly all other apparatus needed may be borrowed from physics and chemistry laboratories. A large globe should be purchased. A library of models can be built gradually by the interested members of the classes.

For exercise No. 27, a **Physiographic Diagram of the United States,** published by the Geographical Press, Columbia University, New York, is suggested.

A copy of Trewatha's **Climates of the World** should be available to the teacher. This is also published by the Columbia Geographical Press.

The Tarr and Von Engeln, **A New Physical Geography**, published by the Macmillan Company, San Francisco, is a very satisfactory text.

V. Content

A. Introduction

1. Earth's form
2. Earth's place among the planets
3. Earth's motions
4. Effects of earth motions (progression of seasons had best be left until the subject of weather and climate is taken up)
5. Natural time units
    a. Year
    b. Month
    c. Day

B. General features of the earth

1. Hydrosphere
2. Atmosphere
3. Lithosphere
4. Irregularities
5. Conflict of uplift forces and erosion

C. Rocks and minerals

1. **Igneous rocks**
    a. Basalt
    b. Rhyolite

    c. Obsidian
    d. Pumice
    e. Scoria
    f. Granite
2. **Sedimentary rocks**
    a. Sandstone
    b. Shale
    c. Conglomerate
    d. Limestone
    e. Coal
3. **Metamorphic rocks**
    a. Slate
    b. Quartzite
    c. Marble
    d. Anthracite
4. **Rock-forming minerals**
    a. Quartz
        (1) Crystalline
        (2) Amorphous
    b. Feldspars
    c. Calcite
    d. Mica
    e. Hornblende
    f. Magnetite
    g. Dolomite
    h. Talc
    i. Serpentine
5. **Formation of ore deposits**
    a. Crystallization from magma
    b. Formation by gases
    c. Crystallization from hot and cold water
    d. Placer deposits
6. **Metallic minerals**
    a. Hematite
    b. Limonite
    c. Copper minerals
    d. Silver minerals
    e. Lead minerals
    f. Arsenic minerals
    (This study should be expanded if the local region contains mineral deposits. This list is considered a bare minimum.)
7. **Important commercial minerals**
    a. Salt (Halite)
    b. Gypsum

   - c. Borax
   - d. Soda
   - e. Nitre
   - f. Petroleum

8. **Hardness of rock**
9. **Soils**

D. Weathering

1. Oxidation
2. Solution
3. Change of temperature
4. Freezing of enclosed water
5. Life
6. Talus
7. Soil creep
8. Landslides
9. Factors determining rate of weathering

E. Agents of erosion

1. Waves
2. Wind
3. Glaciers
4. Running water

(This study should be introductory—detailed study follows)

F. Age of earth and rock

1. How we know one rock is older than another
2. An elementary idea of life which occurred during the Cambrian, Devonian, Carboniferous, Mesozoic, and Cenozoic epochs and systems.

(As much material should be presented here as the instructor can use in his time allotment)

G. Running water

1. Source of water
   - a. Run-off
   - b. Ground water
      - (1) Springs
      - (2) Artesian wells
      - (3) Caves
2. Rock load of streams
   - a. Factors which influence load
3. Aggrading and degrading streams
4. How rivers cut
5. Waterfalls
6. Valley widening
7. Headwater erosion
8. Young valleys
9. Old valleys
10. Mature valleys
11. Effect of valley form on transportation, agriculture
12. Flood plains and natural levees
13. Causes of floods
14. Flood control
15. Meanders
16. Oxbow lakes
17. Deltas

18. Alluvial fans
19. Valley filling
20. Superimposed streams
21. Antecedent, consequent, subsequent, and obsequent streams

H. Plains and plateaus

1. **Coastal plains**
    - a. Formation
    - b. Size
    - c. Development of cuesta and inner lowlands
    - d. Development of banded agricultural regions as "Black Belt"
    - e. Effect of slight sinking in forming wide bays
    - f. Conditions of East Coastal Plain
    - g. Relation of Piedmont to East Coastal Plain
2. **Great plains**
    - a. Location
    - b. Formation
    - c. Structure
    - d. Extent
    - e. Meaning of high plains
    - f. Meaning of low plains
    - g. Meaning of central lowland
    - h. Especial study of Missouri Plateau
3. **Lake plains**
    - a. Formation
    - b. Bonneville, Lahontan and Agassiz Lake Plains
    - c. Especial study of the inter-mountain lake plains
4. **Peneplains**
    - a. Erosion cycle
5. **Mesas and buttes**
6. **Volcanic plateaus and plains**
7. **Columbia volcanic plateau and relation to Blue Mountains**
8. **Grand and Moses Coulees**

I. Mountains

1. **Folded type of mountains**
    - a. Anticline
    - b. Syncline
    - c. Monocline
    - d. Development of anticline valleys
    - e. Development of syncline hills
    - f. Folded Appalachian structure
        - (1) Water gaps
        - (2) Anthracite coal region
2. **Faults**
    - a. Nature and cause
    - b. Earthquakes
    - c. Horizontal faults
    - d. Normal faults
    - e. Dip faults
    - f. Great Basin structure
3. **Volcanoes**
    - a. Structure
    - b. Pelee; Krakatoa; Mauna Loa
    - c. Review volcanic materials

4. **Intrusions**
    - a. Batholiths
        - (1) Formation
        - (2) Erosion and formation of hog backs
    - b. Importance of intrusions as mineralizers
    - c. Boulder Batholith; Black Hills structure
    - d. Probable formation of Goshen Hole; Blue Grass region
    - e. Dikes and sills
    - f. Hot springs and geysers
5. **Distribution and importance of mountains to man**
6. **Mountains of United States and Montana**
7. **Mountains as barriers**
8. **Resources of mountains**

J. Glaciers and glacial deposits

1. Causes of glaciers
2. Types of glaciers
3. Crevasses
4. How glaciers carry loads and erode bed rock
5. Existing glaciers, especially of Montana
6. Glacial valley; cirques; fiords
7. Moraines: lateral; terminal; ground
8. Valley trains and outwash plains
9. Kames; eskers; drumlin
10. Ice age
    - a. Extent of ice
    - b. Modification of United States due to ice sheets

K. Lakes

1. Ice-dammed lakes
    - a. Effect of ice on Great Lakes; Mohawk Valley
    - b. Extinct ice-dammed lakes of Montana
2. Moraine and cirque lakes; examples in Montana
3. Fault lakes; Great Basin lakes
4. Crater lakes
5. Coulee lakes
6. Life history of lakes
7. Importance of lakes to man

L. Shore lines

1. Action of waves; long shore; currents; under tow
2. Wave cut terraces; wave built terraces
3. Beaches
4. Hooks and bars; offshore bars
5. Location of Atlantic City; Galveston; Miami Beach
6. Sand dunes and loess deposits
7. Atolls
8. Drowned shores lines; uplifted shore lines
9. Characteristics of a good harbor; of a good port

M. Oceans

1. Extent; composition
2. Thermal capacity of oceans
3. Temperature of deep ocean water

N. Atmosphere

1. Extent and composition

O. Elementary meteorology

1. Light; color; reflection; refraction; heat from light
2. Heat transference; conduction; convection; radiation
3. Comparison of waters and lands in thermal characteristics
4. Warming of air
5. Effect of angle of incidence
6. Effect of altitude
7. Progression of season
8. Seasonal range of temperature
9. Daily range of temperature
10. Humidity; absolute; relative
11. Effect of temperature on relative humidity
12. Effect of humidity on health
13. Dew; frost; fog; clouds; cloud forms
14. Rain; snow; hail

P. Winds and storms

1. **Local winds**

   Sea breezes; monsoon winds; canyon winds; desert winds; chinook winds

2. **Great wind belts**
   - a. Convectional origin; effect of rotation
   - b. Doldrums; trades; horse latitudes; westerlies
   - c. Shifting of wind belts with the heat equator

3. **Cyclonic storms**
   - a. Nature
   - b. Progression across the United States
   - c. Why they affect temperature
   - d. Cold and warm waves
   - e. Why they affect precipitation

4. **Thunderstorms**
   - a. Origin
   - b. Importance to Montana

5. **Tornadoes and hurricanes**

Q. Climate

1. **West coast climate**
   - a. Why Pacific northwest has a wet warm winter and a cool dry summer
   - b. Exaggeration due to mountains elevating westerlies

2. **Continental interior climate**
   - a. Winter controlled by cyclonic storms
   - b. Summer rainfall due to thunderstorms
   - c. Why a great seasonal range of temperature
   - d. Why central Washington is a desert

3. **East coast climate**
   - a. Why the proximity of the ocean does not produce a warm winter and a cool summer
   - b. Why precipitation is heavier along sea coasts than in the interior

4. **Windward coast climate**
    a. Comparison of this trade wind climate with a west coast
    b. Reasons for the differences
5. **Trade wind desert climate**
    a. Why certain regions are deserts
    b. Cause of extreme daily range of temperature
6. **Mediterranean type of climate**
    a. Why arid
    b. Why small winter rainfall
    c. Why slight seasonal and daily range of temperature
    d. Southern California as an example
7. **Equatorial climate**
    a. Cause of small seasonal range of temperature
    b. Cause of heavy precipitation
8. **Polar climate**
    a. Why a great seasonal range of temperature
    b. Why precipitation is very small

R. Physiography of the United States

1. Rivers and drainage basins
    a. Names and descriptions
2. Northern Rocky Mountain region
3. Columbia Plateau
4. Pacific Coastal Ranges
5. Great Basin
6. Colorado Plateau
7. Southern Rocky Mountain region
8. Great Plains
9. Central Lowland
10. Laurentian region of Lake Superior and Adirondacks
11. Ozark Region
12. Appalachian structure; plateau; folded and old mountains; Piedmont
13. Coastal Plains
14. New England Region

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B. High school texts

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Tarr and Von Engeln, New Physical Geography. The Macmillan Company, San Francisco

Whitbeck, High School Geography. The Macmillan Company, San Francisco

COURSE OF STUDY

State of Montana

HIGH SCHOOL

Social Studies

Elizabeth Ireland
State Superintendent of Public Instruction
Helena

1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Community Civics, Vocations, World History, American History and Government, American Problems, Economics, Sociology, Psychology, and Montana Life is being offered as a tentative program for the field of social science in the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and Teachers of Social Science send from time to time, as this course is used, suggestions for its improvement.

Grateful acknowledgment is made to Montana Educators and to the Social Science Committee, in particular, for their kindly cooperation with the State Department of Public Instruction in formulating the subject matter contained herein. Valuable assistance was obtained from courses of study from other states and from new texts furnished by Publishing Companies.

Special acknowledgment is given to William A. Chittick, Assistant High School Supervisor, who was in direct charge of curriculum construction for the secondary schools. Invaluable assistance was rendered by Alice A. Mattison and Ellen Nelson Colleran of the State Department of Public Instruction in putting the material in shape for the printer and in reading and correcting proof.

ELIZABETH IRELAND,
Superintendent of Public Instruction.

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HIGH SCHOOL SOCIAL STUDIES

PART ONE—GENERAL SUGGESTIONS

I. Introductory Statement

One of the chief purposes of schools is to provide an education which will enable people to understand the world in which they live, to provide them with the background for seeing themselves in their own times. Much of the aimlessness of the world is due to a lack of this understanding. Each of the various subjects in the high school curriculum contributes something to this understanding. But it is in the field of social studies that the teachers are mainly charged with the responsibility of inspiring the student with an understanding of, and imparting a sense of responsibility for, the orderly, progressive functioning of the social machinery which will mean for many their own community. Such emphasis is necessary because of the increased enrollment in high schools and because many students will become the future leaders of America. The teachers must approach their task with a sense of responsibility, with enthusiasm, with the willingness to give service, and with a sense of mastery acquired through thorough preparation, general as well as daily.

The social studies are coming more and more to be recognized as important in influencing conduct and citizenship. Since this is the case, the teachers of the social studies should not consist of those members of the faculty who can "take on" an extra class, or who happen to have a convenient vacant period, regardless of their training or aptitude for teaching the subject.

II. Laws in History

Happily in all history, certain laws obtain, which make the subject one of unique educational value. These laws as stated by Edward P. Cheyney are:

A. The law of continuity
B. The law of impermanence
C. The law of interdependence
D. The law of democracy
E. The law of free consent
F. The law of moral progress

Americans boast of being the richest nation in the world, of having the largest middle class in history, of leading the world in gold supply and in the production of manufactured goods, coal, oil, iron, and wheat, yet there are recurring depressions and serious unemployment, health, taxation, and crime problems. James Harvey Robinson has said that we are now in possession of a vaster store of information about these social relationships than ever before in the history of mankind. He has also said that the social sciences are in about the same age of development as were the biological sciences two hundred years ago. Harry Elmer Barnes answers in "History and Social Intelligence", "the only hope of a successful and efficient utilization of the remarkable contributions of science and technology to human society lies in a persistent and organized effort to develop those social sciences which alone can serve to guide man toward an ever more safe and adequate exploitation and control of the increased power which natural science and technology have placed at his disposal." Impregnated as social studies are with faith in progress, the teachers should do their share toward teaching society to plan its developments. Democracy cannot succeed where apathy and indifference prevail, where but a minority of the citizens are concerned in public affairs. The meaning of democracy is not that everyone is equally capable of administering public affairs, but that everyone should be sufficiently informed to be able to judge intelligently between policies and persons for the success of democracy.

III. General Objectives

One of the great objectives of the social studies should be to train the student to recognize propaganda, so he will realize that all of the truth on any subject is not found in any one source; that no book, magazine, newspaper, or person is infallible. The use of many references will be a step in this direction. The acquisition of a body of reliable facts is another guard against propaganda. Arthur E. Myers says, "We study history not that we may know what a book says, not that we may quote a mass of facts, but that we may use these facts in an interpretation of the problems of life and society."

The teaching in the social studies group should remove the inherited stigma on labor, by teaching the joy of honest work well-done and should explain the fallacy of "trying to keep up with the Joneses." The social studies teacher should present the problems of today and should saturate the student with the realization that such problems will arise continuously during his life and that he will be called upon to share in their solution. Each generation needs to fight the good fight anew, or perish. The size of the task for the social studies teacher is complicated by the fact that as Van Loon has observed, "A Zulu in a frock coat is still a Zulu . . . . And a human being with the mind of a sixteenth century tradesman driving a 1931 Rolls-Royce is still a human being with the mind of a sixteenth century tradesman."

IV. Curriculum

With what instruments and machinery shall the above directions be steered into a smooth sailing course?

Committee reports on the high school curriculum prior to 1916 allotted most of the time given to social studies to the study of history with perhaps a semester of civics. The N. E. A. Committee Report of 1916 suggested: for the ninth grade, Political, Economic and Vocational Civics, with History incidentally; for the tenth grade, European History; for the eleventh grade, American History; for the twelfth grade, Problems of American Democracy. The second Committee of Eight (1921) recommended: for the ninth grade, Community and National Activities including Commercial Geography, Economic History and Civics; for the tenth grade, Progress toward World Democracy since 1650; for the eleventh grade, Progress toward Democracy in the United States with foreign contacts; twelfth grade, Social, Political and Economic Problems and Principles. A Commission on an investigation of history and other social studies in the schools, under the chairmanship of Professor A. C. Krey (to report in 1933), is preparing what will probably be the most comprehensive study of the field ever made. The social studies curriculum in a majority of Montana high schools seems to be: ninth grade, Community Civics and Vocational Guidance, or Vocational Civics; tenth grade, World History; eleventh grade, American History and Government; twelfth grade, American Problems, or a semester each of Sociology and Economics. For high school graduation, the only absolute requirement from among the social studies is one year of American History and Government.

V. Administrative Problems

A. Number of units offered

1. General statement

This course of study in social studies has been prepared to fit conditions in Montana schools. It includes an outline for:

Community Civics, for one semester (usually given in the ninth grade; one-half unit of credit)

Vocations, for one semester (usually given in the ninth grade; one-half unit of credit)

World History for one year (recommended to be given in the tenth grade; one unit of credit)

American History and Government, the only absolute requirement for graduation from the social studies group, given for one year (recommended for the eleventh or twelfth grades; one unit of credit)

American Problems, for one year (preferably in the eleventh or twelfth grades; one unit of credit)

Economics, for one semester (recommended for the twelfth grade if possible; one-half unit of credit)

Sociology, for one semester (recommended for the twelfth grade if possible; one-half unit of credit)

Psychology, for one semester (recommended for eleventh or twelfth grades; one-half unit of credit)

Montana Life, for one semester (recommended to be given not earlier than the tenth grade; one-half unit of credit)

It will be seen from the above that the Community Civics and Vocations may well serve to give the first year high school student a balanced social science. The World History course should not be attempted by first year students, but should be offered in the tenth grade or above. Some high schools will prefer to teach American Problems for a year, while others, with as much justice, will prefer the two semester subjects, Economics and Sociology. However, no student should be permitted to take American Problems after having studied successfully Economics and Sociology, or the converse, because the Problems course is a combination of Economics, Sociology and Civics, and a student should not be permitted to duplicate work for which he already has received credit. The two last named courses, Psychology and Montana Life, are new. Very few high schools in Montana have offered a course in Psychology, but there seems to be a growing tendency to offer to students of the secondary schools a course in practical Psychology, making it possible for youth to better adjust themselves to life situations and to understand better their own personality problems. The Montana Life course is designd to give students of Montana high schools a better understanding and appreciation of the history and problems peculiar to Montana.

2. **Recommendations of State Board of Education**

   The State Board of Education requires that every student graduating from a three- or four-year high school shall have earned a credit in American history and government. No student who has not earned one unit (equal to a year's work) in American history and government may graduate from a three- or four-year accredited high school. A two-unit course in American history and problems of American democracy required in the eleventh and twelfth grades may be substituted for the requirement. (Adopted July, 1927.)

3. **College entrance requirements**

   The entrance requirements set by the University authorities are as follows:

   > "Students entering after September 1, 1927, must offer three units of English, one of American history and government and at least two other units from each of three of the following groups: (a) mathematics: algebra, plane and solid geometry, trigonometry, general mathematics; (b) history and social science: Greek, Roman, medieval, modern or English history, civics, community civics, economics, sociology, citizenship, economic or industrial history; (c) laboratory science: physics, chemistry, botany, zoology, biology, physiology, agriculture, astronomy, geology, physiography, general science; (d) foreign languages."
   >
   > (From University of Montana Bulletin, May, 1931.)

   It must be emphasized that the unit of credit in American history and government is required for graduation and that if the student wishes to satisfy the group requirement by offering history and social science, he cannot include the credit in American history and government as one of the two units, but he must instead offer two other units from the history and social science field. The one unit of credit in American history and government is in excess of the two units of credit offered to satisfy the social studies group.

4. **Requirements set by local trustees**

   The local boards of trustees may, insofar as they do not conflict with the rules and regulations promulgated by the State Board of Education, make such rules and regulations as they may deem proper governing the qualifications for graduation.

   Taking into consideration the information of the above paragraph, local boards have made and do make the requirement of one or two units of credit in history and social science for graduation.

B. Qualifications and training for teachers of history and social science

While the standards of accrediting set up by the State Board of Education require that teachers of high school subjects be graduates or the equivalent of fully accredited four-year colleges or universities, and that the practice of teachers being assigned to teach subjects outside their major fields of preparation be discouraged, the State Department of Public Instruction recommends that a teacher of history and social sciences in secondary schools should have as a minimum preparation the following prerequisites:

1. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in history and social science. If the teacher expects to teach history, much of the thirty-five quarter hours should be in the field of history; if the teacher expects to teach economics, sociology, citizenship, etc., the major portion of the thirty-five quarter hours should be in those branches of social science. It is not to be supposed that because a teacher has qualified to teach history, that he is also qualified to teach citizenship or American problems.
2. Some training in the teaching of history and social science. This is very important since the technique of teaching history and social sciences is quite different from that of teaching in other fields.
3. Ability to adapt materials and methods to the varying needs of pupils. To do this the teacher must know his subject thoroughly.
4. Ability to choose and organize history and social science materials from texts and other sources. A teacher in the social studies field should not be dependent on one textbook.
5. Professional contacts with organizations and movements looking toward reform and improvement in the teaching of history and the social sciences. Especially is it assumed that a teacher of history and social sciences will become familiar with the varying practices and methods of teaching in this field, with workbooks, guide sheets, and standard tests in the field, and that he will use such types of material in classroom practice.
6. A sympathetic understanding of the high school student's difficulties in the social science field.

VI. Methods and Equipment

Henry Johnson says history makes two unique contributions to education: the historical method and the idea of development. The methods of teaching in the Social Studies cannot be absolutely fixed for each of the Social Studies or for all teachers. Each teacher must follow that program of teaching methods which will further the best results for pupil development, and which will not become static.

The use of page-by-page assignment followed by a parrot-like recitation does not provide for sufficient pupil activity and is apt to destroy interest in the subject. The lecture method is not intended for teaching on the secondary school level; however, the teacher should not hesitate to add interesting bits of information to the class discussions, nor should he hesitate to explain points on which the class is found to have vague notions. The study of history should develop a consciousness of historical evidence and to this end it should teach the use of the tools of investigation, how to find material, how to organize and to draw justified conclusions. In so doing the study of history aims to teach the student to hold judgment in suspense until he has the facts. History teaching would thus inculcate a questioning habit of mind in all readers.

Directed study or supervised study and the project-problem method fit well together. After a preliminary exploration of the subject the teacher gives an interesting and thorough presentation and assigns the topic as a problem to be solved. (In the presentation the teacher must "sell" the subject to the class.) After the class is shown how to study, and the tools for work have been provided or indicated, the work of assimilation and organization proceeds. The problem may be capped by an oral review or discussion. Many workbooks or directed study books, thoroughly covering the social studies, have recently appeared on the market. A perusal of some of these would help teachers develop plans of their own.

The classroom must be made a social science laboratory and society must be studied in action wherever possible. Visits by the class or committee to city councils, courts, and other governmental institutions may be made after class study or after the pupils have been told what to look for. Wall and outline maps, charts, diagrams, both commercial and student-made, must be used. The devices described in Knowlton, Making History Graphic, may be employed. Local and Montana history should be brought forward as illustrations. Men connected with government might be brought to talk to the class. They are usually willing to explain student-propounded questions. Pictures and, if possible, models illustrating the problem under study should be on display. Primary sources must be read, real characters introduced, and intensive and extensive reading encouraged. Through experience students must be impressed with the truth, that all of the material for the study of society is not to be found in one source.

A. Social studies library

Any social studies department may build a library of magazine articles or a file of references of its own. This should include such references as the teachers think especially valuable for their work. Elizabeth Shaver's article in the Historical Outlook for May, 1930, "Helpful Hints for History Teachers," presents a list of aids of all kinds including films, workbooks, directory of publishers, etc. In this connection, also, four of the publications of the National Council for the Social Studies are worthy of mention:

No. I, Historical Fiction Suitable for Junior and Senior High Schools, by Hannah Logasa

No. II, Classified Catalogue of Textbooks in the Social Studies for Elementary and Secondary Schools by Annabel Redman

No. IV, The Management of the Reading Program in the Social Studies, by W. G. Kimmel

No. V, Bibliography of American Biography Selected and Annotated for Secondary Schools, by F. H. and H. E. Wilson.

These may be secured from the McKinley Publishing Company, 1021 Filbert Street, Philadelphia

Firms handling maps and other illustrative material include:
Denoyer-Geppert Company, Chicago
A. J. Nystrom and Company, Chicago
McKinley Publishing Company, Philadelphia
Geo. F. Cram Company, Indianapolis, Indiana
University of Chicago Press, Chicago
Rand McNally & Company, Chicago
Weber, Costello Company, Chicago
Modern School Institute, Kansas City, Missouri

Pictures, stereopticon slides and films are furnished by:
G. P. Brown Picture Company, Beverly, Massachusetts
Perry Picture Company, Malden, Massachusetts
W. B. Harrison, 59 Broadway, New York (best reproductions of ancient art)
Lantern slides at small cost from the American Civic Association, Union Trust Building, Washington, D. C.

Films and slides from Keystone Company, Meadville, Pennsylvania; from Underwood and Underwood, New York; from Society for Visual Education, Inc., 327 South La Salle Street, Chicago; from Akin and Bagshaw, 1425 Williams Street, Denver; from Bell and Howell Company, 1801-1815 Larchmont Avenue, Chicago; from Herman Ross Enterprises, Inc., 622-30 Ninth Avenue, Chicago; from UFA Films, Inc., 1540 Broadway, New York.

Motion picture projectors suitable for school use may be secured from Bell and Howell Company, 1801-1815 Larchmont Avenue, Chicago, or from Akin and Bagshaw, 1425 Williams Street, Denver.

B. Correlation with other subjects

The correlation of history and geography is an absolute necessity in the study of history. His environment has helped make man, and man is continually trying to master his environment. The study of economics is conditioned by geography as is also that of sociology. The negro problem, for example, is not as intense in Canada as it is in the United States. The fact that copper can be produced in Africa at half the cost of that produced in the United States is an example of how geography may change the industry of tomorrow.

The effect of economics on history has been thoroughly expounded. We are just beginning to find out the effect of mass and individual psychology on history and economics and we know that history and economics deeply affect our approach to almost every social and political problem. "The world-wide economic depression has taught business men one thing: that to understand business, they must understand its foundation in economics, especially in its international aspects. The day is past when business men could assume that economics is academic, unrelated to the practical problems of commerce. And no longer is it possible to rely on the classical economics of the eighteenth and nineteenth centuries. To know the chain of causes and effects that create the business world of today, we must know the economic thought of today."

Schools of literature have helped determine the character of various periods of history writing and have influenced the making of historical events. Schapiro has said that he did not see how one could pretend to complete a study of a period of history without a knowledge of the kind of literature that was produced therein.

Changes in government and politics have been a perpetual theme in history. The conflict between absolutism and democracy and the presence in the world today of nationalism, bolshevism, and fascism are some fundamental facts of human existence and must be exploited by the social studies. Nor may ethics and the development of ideals be neglected.

C. Current events

The study of current events should be provided for in every social studies course. This does not mean, however, that one day a week must be set aside for the study of a current events paper or magazine. This too often means little preparation by the student on a three- or four-line report of more or less sensational material. Unless this work can be made purposeful, and unless the topics selected for consideration have some connection with the course studied, no time should be given to them. The current events topics studied should be vital and relate in a definite way to the development of civilization. If from twenty to thirty-five topics are reported upon in a class period, the teacher cannot be well-informed upon them, and certainly the members of the class cannot intelligently comprehend that number of topics. It would be better to take a very few topics closely related to the work of the course and develop those thoroughly than to take thirty or more topics developed aimlessly and superficially. If one of the major objectives of the social studies course is an understanding of the present, then each course in the social studies must be projected into the present and the principles of the development of society must be applied to proposed changes. The teacher must be ever alert for the happenings of today which most clearly illustrate the trend of history. A bulletin board for clippings is a very valuable adjunct in this work.

Three papers published specifically for high school social studies current events are: **The World News**, American Education Press, Columbus, Ohio; **The News Review**, The Macmillan Company, New York; and the **Weekly News Review**, Lock Box 1915, Washington, D. C. The latter is less diffuse in its presentation and does some notable interpreting of world events. As the editor of one of these papers writes: "The wisdom of the best informed is not available to the average man. The sophistries of the demagogue are. There is a great need that the principles of social science be brought to bear in interpreting the events and problems with which American citizens have to deal. These interpretations should be placed before the students in the schools. The . . . . . undertakes to interpret the ideas of great social thinkers to its readers, and to make use of these ideas in explaining the problems of the day. We believe very strongly in the need of such work. We are glad of every indication that more attention is being given the wider distribution of the truth." A very excellent paper for the more advanced high school student and one especially valuable in sociology, economics, and problems of American democracy courses is **The American Observer**, address Box 1915, Washington, D. C. It is an eight-page weekly.

The social studies group in the high school should not be content with the use of the current events papers listed above, but should also make use of any available materials in magazines not primarily for school use, as The Review of Reviews, Current History, Literary Digest, World's Work and others. Articles, especially pertinent to the course, appearing in the daily papers, also, are valuable.

The length of life of texts in which the narrative ends with events of several years ago, may be extended some years by preserving the preceding years' files of the current events paper. If the teacher will then prepare a classified list of topical references, any field may be brought up-to-date.

D. Facts

A few paragraphs adapted from Lowell's Public Opinion and Popular Government, as quoted in Williamson's Readings in the Problems of American Democracy, give the following on the question of the place of facts in the social studies course: "Many of America's problems do not present a question of harmony with accepted principles, but the application of an accepted principle to a particular case, or the means to be adopted in attaining an end universally desired; and these things require for their determination a considerable knowledge of their subject matter . . . On these problems, an opinion worthy of the name cannot be formed without a process of reasoning and, what is far more difficult, the command of a number of facts . . . In order, therefore, that there may be a real Public Opinion on any subject, not involving a simple question of harmony or contradiction with settled convictions, the bulk of the people must be in a position to determine of their own knowledge, or by weighing evidence, a substantial part of the facts required for a rational decision." The acquisition of these facts is one of the cardinal processes in the study of the social sciences. In order that these facts do not remain a jumbled, undigested mass in the minds of high school students, they must be presented in an orderly, classified array with such sub-heads as, economic, social, political, religious, cultural and other divisions that will help serve as a mental filing case.

These facts will include a sufficient number of dates to serve as "pegs" whereon to hang the facts and thus keep the chronological sequence of human progress in mind. The Forum Magazine in its September, October, and November, 1930, and March, 1931, issues has a valuable collection of "the greatest dates in history." One criticism which might be offered of this list is the omission of "key" dates in some of the cultural phases of life.

The acquisition of facts should not preclude the instruction of the students in the art of how and where to find other bodies of facts, as tables of contents, indices, atlases, almanacs, etc.

A notebook should be used by the student as a place to correlate topics, as in the construction of a time line, to keep classified lists of important facts and dates, clippings, cartoons, reading references, outline maps, and similar material.

E. Testing program in the social studies

The time may come when no formal tests will be needed in social studies. Under present conditions, however, they must be given. A test should have the confidence of the pupils, should be comprehensive and objective, should be easy to score, its items should be graded, and the teacher should know why he is giving it, whether for information, civic attitudes or techniques. The new types of examinations fulfil most of these requirements. The essay type of question tests power of organization and expression, features which are not so easily tested by the new type test.

Two valuable books for teachers in the social studies field on this subject are: Publication No. 3 of the National Council for the Social Studies, **Tests in the Social Studies** by Alice N. Gibbons, giving a complete bibliography of standard tests (McKinley Publishing Company, 1021 Filbert Street, Philadelphia, Pennsylvania. 1929. One Dollar); and **Teaching Values in New Type History Tests** by Elene Mitchell, published by the World Book Company, Yonkers, New York. New tests are mentioned from time to time in the Historical Outlook.

Available tests are:

General

Wilson and Wapples, Classroom Procedure Test in History and Other Social Studies. University of Chicago Press. Chicago. Ten cents

Rugg, E. U., Historical Judgment Tests. Address the author, Lincoln School of Teachers' College, Columbia University, New York

Kepner's Background Test in Social Sciences. Forms A and B. Harvard University Press, Cambridge, Massachusetts

Mendenhall, R. E. Measurement and Analysis of Ability in History. Write to author, Oskaloosa, Iowa

Neuman, Kulp, and Davidson, "A Test of International Attitudes." Bureau of Publications, Teachers' College, Columbia University, New York

Curriculum Tests in Social Science, World History, United States History, and Government. Denver Public Schools

Ruch, G. M., Objective Examination Methods in the Social Studies. Scott, Foresman and Company, Chicago

Economics

American Council Economics Test, Forms A and B. World Book Company. Chicago

Civics

American Council Civics and Government Test. World Book Company, Chicago

Bear Test on the United States Constitution. Public School Publishing Company, Bloomington, Illinois

Brown-Woody Civics Test, Form A. World Book Company, Chicago

How Well Do I Know the Constitution? The Institute of Public Service, 1125 Amsterdam Avenue, New York

Hill Tests in Civic Information and Attitudes. Public School Publishing Company, Bloomington, Illinois

Almack Tests in American Civics and Government. University of Cincinnati, Cincinnati

Hill-Wilson Civic Action Test. Public School Publishing Company, Bloomington, Illinois

American History

United States History Scale. History Department, Lewis and Clark High School, Spokane, Washington

Columbia Research Bureau American History Test. Forms A and B. Bureau of Publications, Teachers' College, Columbia University, New York, or World Book Company, Yonkers, New York

Barr Diagnostic Test in American History. Series A and B. Public School Publishing Company, Bloomington, Illinois

Davis, S. B., Tests in United States History—Colonial Period. Write to author, University of Pittsburgh, Pittsburgh, Pennsylvania. Information type.

Denver Curriculum Semester Tests in American History and Government. Tests I and II, Form A of each. School Publications, Denver, Colorado

Gregory Tests in American History, Test III, Forms A and B. College of Education, University of Cincinnati, Cincinnati

Pressey-Richards American History Test. Public School Publishing Company, Bloomington, Illinois

Rayner, W. H., American History Test. Bureau of Educational Research, University of Illinois, Urbana, Illinois

Van Wagenen, Reading Scales in History. Public School Publishing Company, Bloomington, Illinois

Plymouth Educational Tests in United States History. Plymouth Press, Chicago

Tyrell American History Exercises. Sheets 1 to 48. Palmer Company, Boston

Comprehensive-Objective Tests. Harlow Publishing Company, Oklahoma City, Oklahoma

Starch's American History Test. University Cooperative Company, 504 State Street, Madison, Wisconsin

Fordyce's Tests for History VII (American). High School, Muskogee, Oklahoma

World History

American Council European History Test. World Book Company, Chicago

Fordyce's Test for History IV, V and VI (Ancient, Medieval and Modern). High School, Muskogee, Oklahoma

Vannest's Diagnostic Tests in Modern European History. Bureau of Cooperative Research, University of Indiana, Bloomington, Indiana

Sloyer Test in World History. Palmer Company, Boston

Barnard's Test in Roman History. A. F. Barnard, University of Chicago High School, Chicago

Sackett's Scale in Ancient History. L. W. Sackett, University of Texas, Austin, Texas

Denver Curriculum Semester Tests in World History. Tests I and II. Denver Public School Publications, Denver, Colorado

Gregory-Owens Test in Medieval and Modern History. Forms A and B. Bureau of Administrative Research, College of Education, University of Cincinnati, Cincinnati

Ancient and Medieval History Test. Harlow Publishing Company, Oklahoma City

F. Teacher's professional reading in the social studies

Every teacher of the social studies should know that the professional organization for the Social Sciences is The National Council for the Social Studies which is the Department of Social Studies of the N. E. A. Membership dues are $3.00 a year. These dues include subscription to the Historical Outlook, the monthly professional journal of teachers of all the social studies, and the publications of the National Council for the year. It would perhaps not be making it too emphatic to say that there should be no teacher trying to teach the social studies in American high schools who is not a constant reader of the Historical Outlook, or its equivalent. In no other single source will the teacher find the inspiration and the vast range of information on subject matter and methods that he will find in this periodical. Each of its eight issues contains, besides the regular articles, a section on (1) Recent Happenings in the Social Studies. (2) Book Reviews. (3) Book Notes. (4) List of Books on the Social Studies Published in the U. S. since the last issue. (5) Historical Articles in Current Periodicals. Every teacher of these subjects should actively aid in the promotion of this organization. The National Council can enlarge its usefulness to the degree that the teacher cooperates.

One of the most valuable pieces of reading for teachers of the social studies (outside of the Historical Outlook) is Earle U. Rugg's contribution in the January, 1931, School Review, entitled, "Some Recent Criticisms of American Contemporary Life and Their Implications for Public Education." In this article Mr. Rugg presents his conviction that the conclusion of the group of pioneer thinkers (listed in the bibliography) calls for the creation in miniature in the school, of problems and activities of contemporary life. These pioneer thinkers point to this need in order that children today may comprehend not only the well-organized social heritage but also the implication of present day needs. "Economic gain," says Mr. Rugg, "has been idealized at the expense of personality development and growth of the individual. Continued study of present-day life—a crucial obligation of a democratic citizenship—is almost entirely neglected." Under the heading of citizenship Mr. Rugg points out, first that in present-day American life there is the survival of the Jacksonian theory that any American is fitted for any task; second, we place too much reliance on a negative form of social control, legislation; third, the complexity of modern life has thrown a tremendous burden on government.

Even if one does not agree with Dr. Rugg, one must admit that he appends a most valuable annotated bibliography of thirty-seven references to recent books and magazines which are fertile sources of information for an interpretation of present American life.

Many teachers will undoubtedly feel that if they follow these suggestions of the procedures, devices, and aids contained here and in the material to which reference is made; if they pre-test, teach, test, adapt procedure, teach and test again; help maintain school discipline; direct one or more extracurricular activities; attend or participate in community activities; they will have their shoulders bent and, they will. But it is the continuous struggle after better ways and means of teaching that provide for the teacher those creative tasks which make life worth while. It is to that end that these suggestions are offered, for such use as may be made of them and as a point of departure and not as a stated requirement.

G. Stimulating reading

Suranyi-Unger, Theo., Economics in the Twentieth Century. Edited with an Introduction by Edwin R. A. Seligman, McVickar Professor of Political Economy, Columbia University. W. W. Norton and Company, Inc., New York. 1931.

"This book fills a real and widespread need. It provides a complete picture of the economic thought of this century: an explanation of the theories and systems of economics in the leading countries of the world. The author deals fully with the development of economics in Germany, France, Italy, and England; and of particular interest is his treatment, from first-hand knowledge, of American economic thought in such writers as Irving Fisher, Clark, Carver, and Moore, in such fields as business economics, mathematical economics, science of management, and economics of war."

Martin, E. D., The Meaning of a Liberal Education. W. W. Norton and Company, Inc., New York

Seligman, E. R. A. (ed.), Encyclopedia of the Social Studies. The Macmillan Company, San Francisco

Merriam, Charles E., The Making of Citizens. University of Chicago Press, Chicago. 1931

Almack, Education for Citizenship. Houghton Mifflin Company, Boston

Bowman, Isaiah, The New World. World Book Company, Chicago

Dictionary of American Biography. Chas. Scribner's Sons, Chicago

Martz and Kinnamon, Social Science for Teachers. Houghton Mifflin Company, Boston

Shepherd, W. R., Historical Atlas. H. Holt and Company, Inc., New York

Snedden, Sociological Determination of Objectives in Education. J. B. Lippincott Company, Philadelphia

Breasted, and Harding, European History Atlas; and Hart and Bolton American History Atlas. Denoyer-Geppert Company, Chicago

Bourne, The Teaching of History and Civics. Longmans, Green and Company, New York

Matthews, Mary A. (comp.), History Teaching and School Textbooks in Relation to International Understanding. Carnegie Endowment for International Peace Reading List No. 29, 700 Jackson Place, Washington, D. C.

Rice, Stuart, Methods in the Social Sciences. University of Chicago Press, Chicago

Hill, The Teaching of Civics. Houghton Mifflin Company, Boston

Johnson, Allen, The Historian and Historical Evidence. Chas. Scribner's Sons, Chicago

Barnes, H. E., History and Social Intelligence. Alfred A. Knopf, New York

Burr, A. S., Study Methods in History. Historical Outlook, Vol. 12, page 27

Hill, H. C., A Course in Modern History Studies in Secondary Education, pp. 109-114. University of Chicago Press. Chicago

Gabriel, Ralph (ed.). The Pageant of America. Yale University Press, New Haven, Connecticut

Barnes, C. C., The Laboratory Method of Teaching History. Houghton Mifflin Company, Boston. Free

Odum, Howard, American Masters of Social Science. H. Holt and Company, Inc., New York

Carr, W. G., Training for World Citizenship. Stanford University Press

Knowlton, D. C., The Teaching of History in the High School. A. J. Nystrom, Chicago

"The Social Studies in Secondary Education." University of Chicago Press, Chicago

Burr, W., Small Towns; An Estimate of their Trade and Culture. The Macmillan Company, San Francisco

Bulletin No. 23. "The Social Studies in Civic Education." United States Bureau of Education, Washington D. C.

Wallace, S. C., Our Governmental Machine. Alfred A. Knopf, New York

Johnson, J. H., The New History. The Macmillan Company, San Francisco

Tugwell, R. G., Industry's Coming of Age. Harcourt, Brace and Company, New York

Harrison, Frederick, The Meaning of History and Other Historical Pieces. The Macmillan Company, San Francisco

Tryon, R. M., The Teaching of History in the Junior and Senior High Schools. Ginn and Company, Chicago

Paxson, F. L., When the West is Gone. H. Holt and Company, Inc., New York

Wells, Outline of History. The Macmillan Company, San Francisco

Oxford Review Series. On American, early European, and modern history, and in civics and economics. Oxford University Press, 114 Fifth Avenue, New York

Publications of the National Council for the Social Studies. (1021 Filbert Street, Philadelphia)

- Management of the Reading Program in the Social Studies, W. G. Kimmel. Price $1.00
- First Yearbook; Some Aspects of the Social Sciences in the Schools. Price $2.00

Social Science Abstracts. Columbia University, New York. (Monthly magazine)

Current Methods: A Text for Teachers of Current Events. American Education Press, Columbus, Ohio. (A magazine)

Any book by the following authors:

Marvin, F. S.
Beard, Charles A.
Van Loon, Hendrick
Pierce, Bessie L.
Hart, Joseph K.
Barnes, Harry E.
Robinson, James Harvey (Dean of American Historians)

If a teacher were to be limited to one professional book in the Social Studies it should probably be: "Teaching the Social Studies," by Edgar Dawson, the table of contents of which is worth presenting here:

Chapter I. The Ultimate Purpose
II. Assisting Progress
III. Geography
IV. Biology
V. Psychology
VI. Economics
VII. Political Science
VIII. Ethics
IX. History
X. Sociology
XI. Specific Objectives in Teaching the Social Studies
XII. The Curriculum
XIII. Methods of Teaching the Social Studies
XIV. The Social Studies Laboratory
XV. Tests and Examinations
XVI. The Teacher of the Social Studies

The tables of contents of two of the best works on the teaching of history are suggestive of the subjects thought worth while by the leading authors in the field.

Henry Johnson: **The Teaching of History** (Macmillan)

Chapter I. What History Is
II. Problem of Grading History
III. The Question of Aims and Values
IV. History of the School Curriculum in Europe
V. History of the School Curriculum in the U. S.
VI. The Biographical Approach to History
VII. The Study of Social Groups
VIII. Making the Past Real
IX. Use of Models and Pictures
X. Use of Maps
XI. Textbooks in History
XII. Use of Textbooks
XIII. Selection and Management of Collateral Reading
XIV. School History and the Historical Method
XV. The Correlation of History with other Subjects in the Curriculum
XVI. The History Examination

The Chapter on History in Dawson's "Teaching the Social Studies" was also written by Henry Johnson.

The contents of Tryon's the **Teaching of History in Junior and Senior High Schools** (Ginn) are as follows:

Chapter I. The History Recitation
II. Teaching Pupils to Study History
III. Special Methods of Procedure: Lecture and Textbook
IV. Special Methods of Procedure: Topical, Source and Problem
V. Progress Within the Subject
VI. Written Work in High School History
VII. The Term Paper and the Permanent Notebook
VIII. Measuring the Results of History Teaching
IX. Library and Collateral Teaching Problems
X. Teaching Current Events in Connection With High School History
XI. Planning the Course and the Lesson
XII. The High School History Teacher

H. Guides to further reading

Turner and Merck, A Reading List on the History of the West. Harvard University Press, Cambridge, Massachusetts

Thompson, Olive, Guide to Readings in Civic Education. University of California, Berkeley

A Guide to Historical Literature by a Committee of the American Historical Association. The Macmillan Company, San Francisco

Bye, E. C., A Bibliography on the Teaching of the Social Studies. Clark University Press, Worcester, Massachusetts. 1929. 25 cents

PART TWO—COMMUNITY CIVICS

I. Introductory Statements

The course in Community Civics outlined here is offered not as a complete and inflexible program to be followed but as a suggestive method by which the subject can be organized and presented to good advantage. No textbook will be found which will exactly follow the order and divisions of the units given but practically all texts will contain valuable reference material on the subjects covered. The instructor may prefer not to use any one textbook but rather a few copies of several of the best texts and reference works. Even though one text were used, it would still be possible to follow this outline, though the arrangement of the text would have to be disregarded in some cases.

There seems to be a quite general agreement among school authorities that certain subjects of the high school should contribute toward character education and among these is Community Civics. The principal object in offering a course in Community Civics seems to be to develop intelligent, constructive citizenship. Good citizenship and sound character go hand in hand and one cannot be developed without affecting the other. The author of this course firmly believes that if it is to accomplish anything worth while in developing character and citizenship the student must have every opportunity possible to put into practice in the school situation those principles which are emphasized in his study. It is unlikely that a poor school citizen will ever be an ideal citizen of the community. The time to start emphasizing school citizenship in high school is when the student is a freshman. This outline can well be used as the introduction to school citizenship and it is with this idea in mind that "The High School Considered as a Community" is made the first unit.

It seems logical to follow the unit on school citizenship with the one on "Community Administration and Welfare," and then proceed to "Our State and National Governments" and other divisions, the material of which will not be so familiar to the students. This plan proceeds from the relatively known to the relatively unknown. In the first two units the members of the class will be able to draw largely on their own knowledge, observation, and experience. To some extent it will be a problem of organizing and applying that which students already know. These first two are probably the most important units for a ninth grade class and more care has been used in outlining them than the units following. The subjects covered in the following units are very well treated in most texts and the instructor will probably have little need of a definite plan of organization.

II. Aims

A. To give the student some understanding of cause and effect, and the ability to interpret facts and events
B. To develop an appreciation of living together with less friction in a modern society
C. To establish proper attitudes toward organized society, enacted laws, and existing institutions
D. To establish and develop a genuinely liberal and progressive spirit in adolescent boys and girls

E. To institute a measure of pupil participation in school control, i. e., to lay the foundation for self-government through self-management

F. To develop the idea that a civic community is a social area rather than a geographical area, i. e., that a community may be a state or nation as well as a local community

III. Attainments

Community civics is a one-semester course and its completion entitles the student to one-half unit of credit. It is recommended that the course be given in the ninth grade, and preferably during the first semester.

IV. Texts and Materials

A. Texts

Any of the following texts adapts itself in a general way to a one-semester course as outlined:

Bliss, Your School and You. Allyn and Bacon, San Francisco
Dunn, Community Civics. D. C. Heath and Company, Chicago
Edmonson and Dondineau, Citizenship Through Problems. The Macmillan Company, San Francisco. Accompanying workbook containing 183 problems. Chapter tests for the 25 chapters of the text
Hepner and Hepner, The Good Citizen. Houghton Mifflin Company, Boston
Hill, Community Civics. Ginn and Company, Chicago
Hill, Community Life and Civic Problems. Ginn and Company, Chicago
Hughes, Community Civics. Allyn and Bacon, San Francisco
King and Barnard, Our Community Life. John C. Winston Company, Chicago
Leavitt and Brown, Elementary Social Science. The Macmillan Company, San Francisco
Levis, Better Citizenship: A Practical Textbood in Community Civics. Harcourt, Brace and Company, Chicago.
Foote, J. Wesley, Directed Civics Study. Workbook in 9th Grade Civics. World Book Company, Yonkers, New York. 1928

In most cases, workbooks and manuals may be obtained from the publisher of the text used.

B. Other valuable materials

World Almanac. The World Publishing Company, New York
Maps of city, county, and state
Posters, graphs and charts
Bulletin board for pictures, clippings, student papers, etc.
Reports of State Board of Health, of County Auditor, etc.
Chamber of Commerce pamphlets, etc.

V. Procedure

One point for the teacher to keep in mind in the teaching of community civics is that the pupil is now a citizen, and the fact of Citizenship, with present interests and responsibilities as a community member must be impressed upon the student's mind. The average high school student is pretty apt to regard the duties of citizenship as quite distant and his feeling of responsibility to society is therefore considerably lessened. As a matter of fact, in all his group relationships in school and out of school, the student is "forming social habits and daily exhibiting traits and characteristics which make him either a useful and efficient citizen in the various communities or groups of which he is a part, or an undesirable and inefficient citizen."

An essential phase of instruction in community civics has to do with the pupil's own citizenship activities in home, school, and local community. Professor Harold Rugg has made the pertinent query: "What dominates our social science instruction: reading about life or participation in life activities?" The pupil should be taught about the activities and ideals of citizenship, but more than all else, there should be provided opportunities for participation in the responsibilities of citizenship appropriate to the age and interests of the individual.

A. Suggested activities

1. Attendance at public meetings where matters of community interest are discussed
2. Arrangement of the material on the bulletin board
3. Cooperating in class and school programs
4. Preparation of debates on community and school questions after thorough discussion in class
5. Participation in class organization
6. Interviews with local officers and reports to class
7. Dramatizing civic activities
8. Problem-provoking questions and suggestions followed by discussions after study. (Assignments in the textbook and other references.)
9. Observation trips to
   a. Council meeting
   b. County courthouse and jail
   c. Fire department
   d. Police department
   e. Factories, dairies, business firms, etc.
   f. State capitol or other State buildings (if possible)
10. Oral reports to class after
    a. Observation trips
    b. Assigned readings
    c. Interviews with city or county officials
    d. Attendance at meetings
11. Participation in school government
12. Drill on fundamental units of knowledge
13. Writing themes on subjects that have been studied or discussed (Students of ninth grade ability should only be expected to write or topics quite well understood by them.)
14. Study and discussion of current events
15. Making of graphs, charts, posters, and cartoons, etc.
16. Making and adopting slogans and phrases bearing on conduct
17. Projects in citizenship such as Clean-up Week; Protection of School Property; Better Speech Week. (The Historical Outlook, Vol. XIII, No. 2, February, 1922, lists over 50 projects that have been successfully carried out in classes.)
18. Studying creeds and codes (The Pledge of the Athenian Youths, Page's American Creed, Hutchins' Code, Washington's Rules of Conduct, etc.)
19. Formulating codes for individual conduct
20. Making collections of civic materials such as pictures, clippings, cartoons, pamphlets, government bulletins, etc.

VI. Content

Dunn says, "A characteristic feature of community civics is that it focuses attention upon the machinery of government. The latter is discussed only in the light of a proper study of the elements of welfare, and in relation to them. The 'elements of welfare' afford the organizing principle for this new type of civics."

Unit One—The High School Community

A. Aims

1. To give the student a knowledge of the meaning of education
2. To cultivate in the student an appreciation of the social value of education
3. To give the student a knowledge of the opportunities which education will bring to him as an individual
4. To bring the student to a realization of his obligations and responsibilities as a school citizen

B. Topical outline

1. **Important items in the history of public education in the United States**
    - a. Colonial schools
    - b. Land grants for the support of public education
    - c. Establishing free public elementary schools
    - d. Establishing free public high schools
2. **Agencies of education**
    - Home
    - School
    - Church
    - Library
    - Books
    - Newspapers and periodicals
    - Travel
    - Lectures
    - Concerts
    - Theatres
    - Museums
    - Experience as a worker
3. **Place occupied by the public school as an agency of education**
    - a. Relation of time spent in public schools to that spent under other educative influences
    - b. Cooperation and complementary relation between educational agencies
    - c. Results of education, a school or individual responsibility
4. **Aims of secondary education**
    - a. Seven Cardinal Principles, formulated by a commission on reorganization of secondary education appointed by the National Educational Association, Washington, D. C. Report made in 1918
        - (1) Health
        - (2) Command of fundamental processes
        - (3) Worthy home membership
        - (4) Vocation
        - (5) Citizenship
        - (6) Worthy use of leisure
        - (7) Ethical character
    - b. Ultimate objectives of secondary education as stated by a committee on standards for use in the reorganization of secondary school curricula for the North Central Association of Colleges and Secondary Schools, March, 1927
        - (1) To maintain health and physical fitness
        - (2) To use leisure time in right ways
        - (3) To sustain successfully certain definite social relationships: civic, domestic, community, and the like
        - (4) To engage in exploratory-vocational and vocational activities
    - c. Other statements and discussions of aims
        - (1) College preparatory for professional training
        - (2) Vocational

5. **Financial support of education in Montana**
    - a. State and miscellaneous funds
        - (1) Permanent school fund founded on federal land grant
        - (2) State equalization fund
        - (3) Fines and penalties
        - (4) State and federal money for vocational education
    - b. County and district taxation

6. **Cost of local high school and sources of support**

7. **Returns to the community, state, and nation from public education**
    - a. Relation of democracy and education
    - b. Relation of production and consumption to education
    - c. Vocational efficiency as a means of individual economic adjustment
    - d. Relation of education to health and social efficiency

8. **Opportunities offered the individual through high school attendance**
    - a. Social advantages given to high school students
    - b. Chance to discover and develop special abilities
    - c. Preparation for a vocation
        - (1) Vocations requiring a college education
        - (2) Value of a high school education as direct preparation for vocations

9. **Relative value of high school activities**
    - a. Regular class work
    - b. Scholarship contests
    - c. Debate
    - d. School paper and annual
    - e. Dramatics
    - f. Athletics
    - g. Miscellaneous

10. **Effect of an atmosphere of order, tolerance, work, and good feeling on the efficiency of the school**
    - a. Effect on the efficiency of the teacher
    - b. Conservation of student time and energy
    - c. Contribution of the group to the education of the individual
    - d. Friendly competition
    - e. Sportsmanship

11. **Respect for property**
    - a. Care of school furniture and fixtures
    - b. Care of school books and materials
    - c. Care of other students' property

12. **Personal habits**
    - a. Cleanliness
    - b. Tidiness
    - c. Courtesy

13. **Typical reasons for poor school citizenship**
    - a. Lack of moral courage
    - b. Rationalization of difficulties
    - c. Abnormal desire to attract attention
    - d. Desire to be a martyr
    - e. Lack of self-control
    - f. Laziness
    - g. Inability to understand school situation

14. **Student council**
    - a. Purpose
    - b. Organization
    - c. Activities
    - d. Value
15. **National Honor Society**
    - a. Purpose
    - b. Standards
        - (1) Scholarship
        - (2) Leadership
        - (3) Character
        - (4) Service
    - c. Activities
16. **Other standards of conduct and achievement**

C. Activities

1. Interview older members of the community concerning their school days and contrast the old schools with those of today as to methods of teaching, subjects taught, and discipline
2. Make a collection of pictures of the old and the new schools
3. Construct a graph showing the growth in population in the U. S. and the growth of high school attendance from 1871 to a recent date
4. Collect **Tributes to Education** from writings of noted men, and from these make a list of the purposes of education
5. Find the amount of the public investment in the education of a high school graduate
6. Find the cost per high school pupil in your school, per year, per week, per day
7. Secure the record of absences for past years in your high school and determine as nearly as possible the cost of avoidable absences
8. Have students give written reports on the school experience of certain famous Americans
9. Gather statistics on the money value of a high school education
10. Make a study of successful citizens and try to determine to what extent education has contributed to their success
11. Evaluate the subjects you are studying in the terms of some recognized list of standards
12. Make a list of suggestions or write papers on **How to Succeed in High School**
13. Consider the following suggestions for the attitude of the ideal student
    - a. He values his own time and effort and has a proper consideration of their importance to other people
    - b. He is reasonably careful of his own property as well as that of the high school
    - c. He is tolerant of the mistakes and conduct of fellow students but does not allow himself to be imposed on
    - d. He is friendly with members of the faculty and ready to cooperate with them but he is never subservient
    - e. He has a good sense of humor which does not become perverted
    - f. He "keeps his head" even in a crowd
    - g. He is frank and unaffected in his actions and attitudes
    - h. He is not interested in gossip and does not cultivate as friends people who are trying to be notorious
    - i. He is honest and truthful

  - j. He minds his own business, but he has the courage to let his fellow students know when occasion arises that he does not approve of their doing what he knows is wrong
  - k. He is courteous and thoughtful of others

14. Collect concrete examples of school spirit
15. Have a committee make an investigation and report on the care of property in the school
16. Have a committee make an investigation and report on order, arrangement, and tidiness in the school
17. Make a school citizenship rating chart and rank yourself on the different standards
18. Make a school citizenship code

D. Topics for discussion

1. Why is education a necessity for democratic government?
2. "I fear for Western civilization; it will be a race between education and catastrophe." H. G. Wells
3. Modern production and consumption are largely dependent on education.
4. Vocational efficiency is one of the best solutions for poverty, crime, and unemployment.
5. What is the value of the required subjects in the curriculum of your school?
6. How can a student get the most out of his high school course?
7. What is the value of interscholastic athletic contests? Other extracurricular activities?
8. What is the relative importance of attitude and ability in high school students? "Everyone is a hero who does the best he can."
9. Can a boy or girl in high school actually lose ground educationally and acquire attitudes which will interfere with his or her work in later life?
10. How do working hours and conditions in your high school compare with those in a well-regulated shop or business office?
11. Compare different types of adult citizens in their relations to the community.

Unit Two—Local Community Administration of Welfare

A. Aims

1. To give students an understanding of the organization and operation of local government
2. To show the student why the family is the fundamental social and economic unit of society and something about its present status
3. To bring the student to a better understanding of some important community problems
4. To create a desire in the student to cooperate with his family and local authorities
5. To direct the thought of the students to community improvement

B. Topical outline

1. **The home and family**
   - a. The family as a fundamental social and economic unit of society
     - (1) The home as an educational institution
     - (2) The family as a consumer of goods and services

- (3) Responsibilities of raising a family
  - (a) Financial
  - (b) Personal
  - (c) Legal
- (4) Satisfactions of raising a family
  - (a) Associations
  - (b) Life interests

b. Factors affecting the status of the home and family
- (1) Cost of providing for family according to modern standards
- (2) Growing practice of renting houses and apartments
- (3) Decrease of necessary work in the home
- (4) Growth in interests outside the home
- (5) Decline in religious influence

c. Plans for stabilization of home and family
- (1) Economic readjustment
- (2) Uniform marriage and divorce laws
- (3) Education

2. Taxation

a. Raising money for community government and services
- (1) General property tax
  - (a) Classification of property in Montana for taxation purposes
  - (b) Assessment of property—appeal for adjustment of assessment
  - (c) Levies
- (2) Poll taxes
- (3) Special assessments for improvements
- (4) Issuing bonds

b. Criticisms of general property tax
- (1) Relation of ownership and ability to pay
- (2) Difficulties of making correct assessments
- (3) Failure of intangible property to pay its just proportion

c. Common objections to payment of all taxes
- (1) Government expensive
- (2) Tax system unfair
- (3) Insufficient benefits to taxpayers

d. Validity of objections
- (1) Tendency to ask the government to perform increasing number of services
- (2) Necessary services must receive financial support

3. Protection of life, property, and the rights of people

a. Communities not using legal organization for law enforcement
- (1) Frontier justice
- (2) Mob justice

b. Law enforcement officers in city and county
- (1) How chosen
- (2) Powers and duties

c. Judicial officers of city and county
- (1) How chosen
- (2) Powers and duties

d. The criminals
- (1) Environment as a factor
- (2) Age as a factor
- (3) Intelligence as a factor

e. Suggested deterrents of crime
- (1) Speedy trial and certain punishment
- (2) Severity of punishment

        - (3) Prompt apprehension of criminal
        - (4) Better adjustment of economic conditions
        - (5) Education
    - f. Prevention of accidents in community
        - (1) Highway regulations
        - (2) Inspection of boilers, public buildings, etc.
    - g. Provisions for fire prevention
        - (1) Fire department
        - (2) Restrictions on building plans
        - (3) Elimination of fire hazards
    - h. Protection from fraud
        - (1) Weights and measures
        - (2) Pure food and drug acts

4. **Safeguarding and promoting of health**
    - a. Value of health to community, state and nation
    - b. Relation of good health to "joy of living"
    - c. Compare health conditions in city and country districts
    - d. Relative importance of cure or prevention of bodily disorders
    - e. Health officers of your community
        - (1) How chosen
        - (2) Duties
    - f. Specific precautions taken in your community to safeguard health
        - (1) Providing a sanitary method of sewage disposal
        - (2) Insuring a pure water supply
        - (3) Inspection of food and feed sales regulations
        - (4) Protection from contagious diseases
        - (5) Provisions for recreation
        - (6) Medical supervision in schools
        - (7) Health program in schools
        - (8) Miscellaneous

5. **Dependency**
    - a. Causes of dependency
        - (1) Sickness, death, and accident
        - (2) Physical and mental handicaps
        - (3) Ignorance and inefficiency
        - (4) Unemployment
        - (5) Old age
        - (6) Crime
        - (7) Miscellaneous
    - b. Provision for dependents in the community
        - (1) Assistance provided by the state government
            - (a) Asylums
            - (b) Training schools
            - (c) Bureau of animal and child protection
        - (2) Assistance provided by local authorities
            - (a) Institutional homes
            - (b) Money allowances for poor
            - (c) Hospitals
            - (d) Red Cross
        - (3) Volunteer welfare organizations
            - (a) Churches
            - (b) Red Cross
            - (c) Associated Charities

6. **History, outlook, and possibility of improvement in your community**
    - a. Planning in establishing community
        - (1) History of community

    (2) Contribution of certain individuals
  b. Attractive features of your community
  c. Proposed plans for community betterment
    (1) Health
    (2) Civic beauty
    (3) Recreation

7. Organization and operation of community government
  a. County officers
    (1) How chosen
    (2) Powers and duties
  b. City officers
    (1) How chosen
    (2) Powers and duties

C. Activities

1. Make a list of the important knowledges, skills, and attitudes the child acquires in the home, as
    a. Language
    b. Health habits
    c. Industry
    d. Loyalty
    e. Obedience
    f. Religion
    g. Morality
    h. Social conduct
    i. Political opinions
    j. Miscellaneous
2. Make a careful estimate of the percentage of the population, and actual number who are dependent because of immaturity
3. Make a list of the necessities which must be provided for young people
4. Collect poems and prose selections for study dealing with the subject of the home
5. Collect tributes from famous people to father or mother
6. Make a list of the names of your city and county officers, noting the principal duties of each
7. Have a student committee interview certain public officials to secure direct information about the duties and responsibilities of their positions; make a class report
8. If desirable arrangements can be made, have some public official talk to the class concerning his own and other offices
9. Collect information about specific projects carried out by local public officials
10. Find how assessments are made in your community. Procure real blanks if possible.
11. Find what levies were made on property in your community for the current year and have pupils work out a few problems in computing taxes
12. Make charts showing the organization of city and county governments
13. Construct a chart showing the distribution of the local tax dollar
14. Gather statistics showing the increase in crime in the United States
15. Have a debate on the question, "Resolved, that trial by jury should be abolished."
16. Gather data on the cost of accidents in the United States
17. Gather data on the characteristics of the criminal population of the United States
18. Work out projects showing the value of health to the community, state, and nation
19. Prepare graphs showing increase in life span, lower death rate, infant mortality, control of particular diseases, etc.
20. Collect from different sources illustrations of people who have overcome great handicaps

21. List the different classes of dependents and indicate the nature of assistance which should be given to each class
22. Arrange personal interviews with early settlers of the community or have some early settler talk to the class
23. Collect newspaper clippings, photographs, stories, and other items relating to the history of the community
24. Have each member of the class make a short study of some particular city to learn about city planning and civic beauty
25. Collect pictures illustrating city planning and civic beauty
26. Make a list of plans which would promote civic beauty and improve living conditions in the community

D. Topics for discussion

1. What can children do to improve their homes?
2. How does tenancy affect community spirit?
3. To what extent can family instability be corrected by law?
4. What kind of education can improve family conditions?
5. Do you find any overlapping in the work of county and city officials?
6. Should some of your county or city officials be appointed or chosen on the Civil Service plan instead of being elected?
7. Discuss the income tax, sales tax, inheritance tax.
8. What is meant by **shifting taxation?**
9. Can you justify distributing the benefits of taxation to those who pay little or nothing?
10. What effect does the general property tax have on home ownership?
11. What should be our attitude toward peace officers?
12. What should be our attitude toward law enforcement?
13. Discuss the traffic regulations and their practicability.
14. Are juvenile courts fulfilling their purpose?
15. What are technicalities in the criminal law and how have they grown up?
16. Discuss the following in regard to accidents:
    a. Honest workmanship
    b. Obedience to law
    c. Faithfulness to responsibility
    d. Carefulness
    e. Respect for rights of others
17. What does the school do to cooperate with the city or public health program?
18. Why is the care of public health one of the most important functions of modern government?
19. How does the United States rank with other countries in regard to health?
20. Do people usually receive help in proportion to their needs?
21. What special methods are used in handling the blind?
22. How is charity best administered?
23. Should care of dependents be administered through charitable organizations supported by voluntary contributions or through official organizations provided for by the government?
24. What is the commercial value of good schools? What is the provision for public recreation, and for civic beauty and conveniences?

Unit Three—Our State and National Governments

A. Aims

1. To acquaint the student with the most important facts about the organization and functions of our state and national governments
2. To teach the student the distinction between the state and national governments
3. To stimulate interest in the activities of the state and national governments
4. To teach the student to appreciate the fundamental principles of our government and to recognize some problems in administering it

B. Topical outline

Organization of the National Government based on a study of the federal constitution

1. **Preamble**
2. **Legislative department**
   a. Organization
   b. Powers
   c. Restrictions
3. **Executive department**
   a. Organization
   b. Powers
   c. Restrictions
4. **Judicial department**
   a. Organization
   b. Jurisdiction
5. **System of checks and balances**
6. **Delegated and implied powers**
7. **Relation of state and national governments**
8. **Amendments to the federal constitution**
   a. Bill of rights
   b. Amendments relating to slavery question
   c. Miscellaneous
9. **Sources of revenue of the national government**
   a. Income tax
   b. Duties
   c. Internal revenue
   d. Miscellaneous
10. **Selected activities of the national government for study**
    a. Administration of territories and possessions
    b. Treaty making
    c. Maintenance of an army and navy
    d. Regulation of commerce—interstate and international
    e. Banking
    f. Bankruptcy laws
    g. Internal revenue
    h. Post Office Department
    i. Coining money
    j. Naturalization
    k. Patents, copyrights and trademarks

11. Comparison of the government of Montana with the national government

12. Organization of the government of Montana based on a study of the State constitution

13. Important State boards and commissions
- a. State Board of Examiners
- b. State Board of Equalization
- c. State Board of Education
- d. State Board of Health
- e. State Industrial Accident Board
- f. State Board of Pardons
- g. Railroad and Public Service Commission
- h. State Fish and Game Commission
- i. State Highway Commission
- j. Livestock Commission
- k. State Land Board
- l. Department of Labor, Agriculture and Industry

14. Lawmaking
- a. Legislature
- b. Initiative and referendum

15. Elections, State and national
- a. Two-party system
- b. Direct primaries
- c. Convention system

16. Proposed election reforms
- a. Short ballot
- b. Proportional representation
- c. Non-partisan elections

17. State taxation and expenditure

C. Activities

1. Make a chart showing the organization of each branch of the federal government, tracing the growth of the executive and judicial departments
2. Make a list of provisions for checks and balances and collect illustrations from history of the exercise of each
3. Have students make special reports on the history of each amendment to the constitution
4. Collect illustrations of the exercise of certain specific grants of power to the federal government under the constitution
5. Collect illustrations of the exercise of implied powers assumed by the federal government under the constitution
6. Show by illustrations from history how the Supreme Court has exerted a powerful influence in establishing our present national government
7. Make a chart showing the expenditures of the national government for one year
8. Secure the names of the cabinet members, the speaker of the House of Representatives, important foreign diplomats, judges of the Supreme Court and other prominent federal officials
9. Have students investigate the work of at least two of the federal executive departments and one federal commission, making reports to the class
10. Secure the names of important State officers

11. Make a list of the ways in which you find the State and national government similar in organization, and of the ways in which you find them different
12. Secure a copy of the laws passed by the last legislature and discuss their importance
13. Choose one of the following questions for debate:
    "There should be an educational qualification for voting."
    "The direct primary system of nomination is superior to the caucus and convention system."
    "The Electoral College should be abolished."
    "There should be a Secretary of Education in the President's cabinet."
14. Have some students make an investigation of the work of some of the State boards or commissions and report to the class

D. Topics for discussion

1. Are there likely to be more than two major political parties in the United States?
2. Should women serve on the juries in Montana?
3. How is money raised to carry on political campaigns? Should this matter be controlled?
4. Could the State be better governed by a commission similar to that employed in some cities?
5. Discuss the following: Lobbying, "lame ducks," senatorial courtesy, long and short sessions of congress.

Unit Four—National Social and Economic-Industrial Problems

A. Aims

1. To acquaint the student with a few of the outstanding social and economic problems in the United States
2. To stimulate the interest of the student in social and economic questions and to lead him to continue his study of such problems
3. To accustom the student to think about social and economic problems in a logical and methodical way

B. Topical outline

1. **Policy of conservation required in the care of**
    - a. Forests and wild plant life
    - b. Coal
    - c. Petroleum
    - d. Natural gas
    - e. Soils
    - f. Fish and game
    - g. Bird life
    - h. Health
    - i. National and community recreation centers
2. **The immigration problem and various methods of controlling immigration**
    - a. History of immigration
    - b. Volume of immigration
    - c. Character of immigrants
        - (1) The old immigration
        - (2) The new immigration
        - (3) Asiatics
    - d. Effects of immigration

    - (1) Economic effects
        - (a) Lowering the standard of living in America
        - (b) Contributing to dependency
    - (2) Social effects
        - (a) Concentration of population in cities
        - (b) Lowering of moral standards and increase in crime
        - (c) Lowering of birth rate of native Americans
        - (d) Increasing of political corruption
        - (e) Placing heavy burden on the American school system
- e. Remedial legislation
    - (1) Exclusion of undesirables
    - (2) Quota law, 1924 (1890 basis)
    - (3) Exclusion of Asiatics by 1924 law
    - (4) Americanization plans
    - (5) Need for control (exclusion, or restriction) of Mexican and Filipino immigration
- f. Naturalization—study of process

3. Government expenditures

- a. Increase of government expenditures due to
    - (1) Growth of cities
    - (2) Larger concept of social service
    - (3) Governmental service to industry
    - (4) Modern program of education
    - (5) High cost of war
- b. Expenditures must be judged on the basis of service rendered

4. Unemployment

- a. Causes
    - (1) Maladjustment of industry
        - (a) Over-production
        - (b) Irregular activity
    - (2) Changing methods of manufacture
    - (3) Shifting demands of the public
    - (4) Financial crises
    - (5) Lack of vocational training
    - (6) Personal character of the worker
    - (7) Miscellaneous
- b. Results
    - (1) Destruction of morale
    - (2) Class hatred engendered
    - (3) Tendency to self-perpetuation
    - (4) Destruction of purchasing power
    - (5) Contribution to many social difficulties
        - (a) Crime
        - (b) Decreased school attendance
        - (c) Break-up of homes
- c. Proposed remedies
    - (1) Stabilization of industry
    - (2) Stabilization of consumption
        - (a) Education
    - (3) Unemployment insurance
    - (4) Vocational training

5. Transportation

- a. Importance to development of the country
    - (1) Water routes
        - (a) History
        - (b) Existing routes
        - (c) New routes

    - (2) Highways
        - (a) History
        - (b) Recent developments
    - (3) Railroads
        - (a) History
        - (b) Recent improvements
        - (c) Government regulation
        - (d) Recent problems
    - (4) Air routes
        - (a) Growing importance
        - (b) Possibilities

6. **Molding public opinion**
    - a. Importance of intelligent public opinion
    - b. Necessity of educational background
    - c. Important mediums of influencing public opinion
        - (1) Newspapers—effects of advertisements, editorials, control of news, ownership
        - (2) Magazines
        - (3) Books
        - (4) Radio broadcasting
        - (5) Motion pictures and "talkies"
        - (6) Clubs
        - (7) Sermons, speeches

C. Activities

1. Determine for several newspapers the amount of space devoted to different subjects
2. Prepare a report on the transportation facilities of your community
3. Determine what are the chief articles of trade that are sent out of your community; do the same for the articles of trade sent into your community
4. Report on recent "talkies" and give an estimate of their value
5. Make a list of the most important canals in the United States, and give a few significant facts about the most important ones
6. Make a chart comparing the railroad mileage in the United States with that in the other leading countries of the world
7. Investigate different methods of road building and list advantages of each
8. Make charts showing for the United States available natural resources in coal, timber, and petroleum; and compare with what has already been consumed
9. According to the last census, find the number of foreign-born people in the United States, and the country from which they come
10. Prepare a booklet on one of the following: How I Can Help in Conservation; Methods of Travel in Various Parts of the World; How Good Roads Help Me; How Public Opinion Is Formed; How I May Practice Cooperation in the Community. Illustrate with drawings or cut-outs.
11. Try to estimate the number of foreign-born families in the community

D. Topics for discussion

1. What are the responsibilities of the individual as regards public opinion?
2. "Far-seeing hygiene can prevent more crime than law."
   "The body is the life-long companion of the mind."

3. Topic for debate: Resolved, That taxpayers only should have the right to vote.
4. Should every individual pay taxes directly to the government for the support thereof? Suggest methods of direct taxation.
5. In what ways are labor and capital interdependent?
6. What rewards may the laborer and capitalist each expect?
7. Three principles of business may be said to be
   a. Good faith and responsibility
   b. Public spirit
   c. Fairness and justice

   Discuss, giving examples. (See Tufts, Real Business of Living, p. 186.)

Unit Five—American Life, Old Ideals, and New Conditions

A. Aims

1. To develop appreciation of American history, customs, and ideals
2. To inculcate a feeling of responsibility for maintaining unimpaired for future generations the fine American heritage of democracy
3. To teach tolerance for the views and customs of others
4. To give an appreciation of the rights guaranteed to the citizens by the government, and to develop a realization of the duties of the citizen toward the government
5. To inspire a love of country

B. Topical outline

1. **Democracy**
   a. Elements of democracy
   b. Significance of the flag
      (1) Flag etiquette
   c. Success of democracy dependent on the conduct and faithfulness of the individual

2. **Equality of opportunity**
   a. Protection of laws
   b. Value of education to increase equality
   c. Effect of character on equality of opportunity

3. **Religious liberty**
   a. History in America
   b. Necessity for tolerance of others' views in a country like ours
   c. Provisions in state and national constitutions providing for religious liberty
   d. Religious liberty and education
   e. The Golden Rule

4. **Freedom of speech and the press**
   a. History and significance
   b. Necessity of safeguarding one's speech

5. **Equality before the law**
   a. The Declaration of Independence and the provisions in the state and national constitutions
   b. Right to protection of courts
      (1) Against false arrest
      (2) To fair, speedy, and public trial
      (3) To trial by jury

   c. Public school education, free and compulsory
   d. Right to property protected
   e. Rights of labor
   f. Civil service on merit basis

6. **A government of law requires law observance**
   a. Obedience and respect for all laws
   b. Petition to government for desired changes in unsatisfactory laws
   c. Service on jury
   d. Cooperation in community to improve conditions
   e. Willingness to serve the country in any capacity
   f. Intelligent voting
   g. Interest in and willingness to become informed on public questions

7. **Service to others**

C. Activities

1. Learn the pledge of allegiance and flag salute, Wm. Tyler Page's "The American's Creed", and the preamble to the constitution
2. Read stories about the flag
3. Be prepared to tell the story of Roger Williams and his struggle for religious liberty
4. Study the bill of rights in the national constitution, and be prepared to tell which rights benefit you
5. Find brief quotations in prose and poetry expressing ideals of citizenship
6. Topic for debate: Resolved, That all newspapers published in this country should be printed in English. (In preparation, secure the opinions of social workers, teachers, clergymen, foreigners, and naturalized citizens.)
7. Read the story called "The Citizen" in Laselle, **Stories of the New America** (Henry Holt and Company, Inc., New York). List some of the contributions the dreamers of the Old World have brought to America.
8. Prepare a talk on "A Citizen by Choice". (This phrase was used by George Washington to distinguish "our citizens by birth" from those citizens who cast their lot with us of their own accord.) Suggestions: Carl Schurz, Jacob A. Riis, Carl Steinmetz, Edw. A. Steiner, Michal Pupin, Edw. Bok, Henry Suzzalo, Samuel Gompers, Ludwig Lewisohn, Mary Antin, Madame Schumann-Heink, Andrew Carnegie, Chas. A. Schwab, J. J. Audubon, Walter Damrosch, James John Davis (Secretary of Labor under Harding and Coolidge), John Ericsson, Stephen Ely (Federation of Labor leader in Montana)
9. List the qualities of character exhibited by each of the following that made or makes him or her a good citizen:
   George Washington
   Abraham Lincoln
   Horace Mann
   Frances E. Willard
   Clara Barton
   Jane Addams
   Dorothea L. Dix
   Theodore Roosevelt
   George Dewey
   John J. Pershing
   Woodrow Wilson
   Julius Rosenwald
   Thomas A. Edison
   Henry Ford
   Calvin Coolidge
   Herbert Hoover
   Will Rogers
   Booker T. Washington
10. Make a list of those citizens who are undesirable, as:
    a. The man who sells his vote
    b. The citizen who does not vote

   - c. The individual who violates quarantine regulations
   - d. The student who unnecessarily drops out of school
   - e. The boy or girl who deliberately destroys public property
   - f. The individual who is a disturbing element in public gatherings
   - g. The tax dodger
   - h. The individual who fails to obey rules, laws, and regulations
   - i. The person who disregards traffic regulations
   - j. The boy or girl who ridicules the foreign-born child, or any person with a peculiarity in dress, speech, or appearance

11. Dramatize a naturalization scene in court

D. Topics for discussion

1. Is there any evidence to show that our history has been influenced by religiously-minded men?
2. Why is public school education free and compulsory?

Unit Six—The Individual—His Problems and Responsibilities

This unit may be used as the connecting link between the course in Community Civics and the course in Vocations, and should, therefore, be given at the end of the first semester or it may even be given at the beginning of the second semester.

A. Aims

1. To awaken in the student an interest in preparation for life
2. To give an understanding of the foundations for success in school and for work outside
3. To develop an appreciation of the importance of using leisure time properly
4. To inculcate an appreciation of thrift in youth

B. Topical outline

1. **Vocational training**
   - a. Need of everyone being prepared to do something
   - b. Interest, special aptitude, education, experience required
   - c. Remuneration
2. **Thrift—ultimate independence**
3. **Various forms of investment**
   - a. Education
   - b. Insurance
   - c. Experience
   - d. Travel
4. **Leisure—proper control of**
5. **Health and recreation**
6. **Making friendships**
   - a. Willingness to cooperate in worth while activities
   - b. Helpfulness
   - c. Courtesies
7. **Developing avocations**
8. **Thinking for one's self**

C. Activities

1. Debate: Resolved, That every student should choose his life occupation before entering high school.
   Resolved, That the student should delay choosing his occupation until it is time for him to go to work.
2. Make a chart showing your leisure time activities for a week. How could you have improved upon the use of your time?
3. Prepare a talk on "The Most Pleasant Vacation I Ever Had".
4. Make your own rules for study and test them out for a week, or longer. If necessary, make changes.
5. Make a list of extracurricular activities that you would be interested in, if you had the time to devote to them. Give the reasons for your choice.
6. Prepare a talk on the character in history or literature that you like best. List the qualities you like.
7. Study what others have said of success and list "The steps to success"
8. List several things you, as a good citizen, would not do. Why?
9. List several social groups of which you are a member, and tell what your duties or responsibilities in each group are.

D. Topics for discussion

1. Why should all students have some form of physical education?
2. Why are secret societies not allowed among students in most high schools?
3. What values do students hope to secure from a high school education?
4. The following personal characteristics are needed for success in any vocation: health, honesty, intelligent cooperation, industry, punctuality. Discuss the value of each in specific vocations.

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PART THREE—VOCATIONS

> Blessed is he who has found his work; let
> him ask no other blessedness. — Carlyle

I. Introductory Statement

As a course in secondary schools, vocations (vocational guidance) is an attempt to lessen the trial and error method by which the young worker has usually found his niche in the world of industry. The value of a properly directed vocational guidance program is now recognized. Due to the increased number of courses offered in the school, and the increased specialization in economic life, boys and girls are finding it more and more difficult to make intelligent choices among the school subjects and of the work to be attempted outside of school. Many boys and girls drop out of school at an early age without any conception of what they wish to do in life and without preparation for any line of work. They leave school because they have not seen the meaning of continued school work in its relation to what they wish to do and have not grasped either the monetary or appreciative values of further education.

The chief functions of vocational guidance are "to acquaint the student with the educational-vocational advantages, opportunities, and possibilities that a given course or subject offers and to awaken his interest in other courses, institutions and activities. The final choice is left to the student." With an increasingly complex society making greater demands upon those leaving school, it is necessary for the school through a system of educational and vocational counselling and vocational training to help each boy and girl to make a definite selection (even if he or she change afterwards) and prepare him or her to make the best possible preparation to meet the requirements of such decision. The emphasis should, of course, always be upon continuing the school work. The choice of an occupation gives definite purpose in choosing school work, it stimulates interest, and secures effective and continued effort that should be utilized to the advantage of school work. It should be pointed out to the student that there are advantages in an early choice of work, but at the same time he should realize the value of adaptability and of the ability to change with changing conditions. The student should learn too that nearly every job is an opportunity for advancement, if he shows alertness and develops the personality for success, and any job however good may become a blind alley to one without vision and the ability to make good. "Energy, tact, judgment, ambition, courtesy, and other desirable characteristics exert a greater influence in the matter of promotion than does the nature of present employment." (From **A New Conception of Office Practice**, Harvard Bulletin, P. 93.)

II. Objectives

A. To inculcate a respect for all useful labor, to create a desire to render genuine social service and to fill an honorable place in the world

B. To help students to a growing familiarity with the vocational life about them, giving a knowledge of and experience in the common occupations and problems of the working world

C. To enlarge the students' viewpoint as to the most promising fields for service that are open to them

D. To emphasize the need of sound moral qualities and for thorough training as prerequisites for success in the vocational world

E. To encourage students to know themselves better—their aptitudes, their capacities, their desires, their interests, their skills, in short, their characteristics, with the view of helping them shape their curriculum to best meet their individual needs and capacities

F. To develop a habit and a method of analyzing occupations as an aid in choosing one's life work

G. To develop a feeling of responsibility for making a choice of vocation and preparing for it

H. To help young workers to an understanding of their human and working relationships to workers in their own chosen vocation and to society in general

III. Attainments

A. Students should develop increased interest in the subject of vocations

B. Students should develop a technique of investigating vocations

C. A student should acquire a fund of knowledge about two or three vocations for which he is adapted

The points in a school system where it seems best that emphasis be placed on the selection of a life work seem to be in the seventh, eighth, or ninth grade (the junior high school grades), or at the beginning of the eleventh year's work. Guidance is always in order for the misfit students.

Ample consultation periods for those who are thinking of quitting school, or who are undecided about future courses, should always be provided.

The members of the ninth grade may well devote some study to a consideration of occupations, whether they plan to leave school before the completion of their high school course or not. The following outline is planned for one semester's work in the ninth grade and entitles the student to one-half unit of credit.

The following represents varying viewpoints of evidence of mastery: "The occupational study classes are not to be concerned with the giving of advice. Children should not be influenced for or against any occupation. The interest features of an occupation should be sought out, advantages and disadvantages may be discussed frankly, but no occupation should be ticketed as good or bad; desirable or undesirable. Its goodness is a relative term, and can be estimated only in relation to the individual.

"Instead of being a peg, the child is a growing organism, and the work of vocational guidance, as of education as a whole, is to help the child mind in gaining an understanding of its environment and in learning how best to react to it.

"Finding one's place in the occupational world is for the most part a matter of growth rather than deliberate choice." **Vocational Guidance Pamphlet No. 1**, Cincinnati Public Schools.

"Only 37.5 per cent of those entering engineering colleges complete their courses and the decision to study engineering seems to be based upon incomplete and unsubstantial knowledge." John M. Brewer.

"There is no such thing as an easy job that is worthwhile. Some kinds of work require mere muscular activity; others demand mental activity. In each case any worthwhile job just about balances in the amount of energy that it takes out of a person in the course of a day." Introduction; **My Life Work** series, Milwaukee Vocation School, Milwaukee.

IV. Materials and Equipment

A good textbook is essential. See bibliography.

Reference books—many of which should be in groups sufficiently large that each student may be assured access to the information when needed. There should be much use of books of fiction, biography and general literature as a supplement to the purely informational material.

Visual aids:

Posters emphasizing success, satisfaction in work, maintenance of health, development of thrift, use of leisure, and how to get and hold a job

Graphs and charts illustrating the differences in earning capacity in individuals with a high school education and those without such education, as well as many other comparisons and developments

Motion picture films. For information write to Bureau of Education, Washington, D. C.

Bulletin board for pictures, clippings, graphs, student papers, etc.

V. Content and Procedure

Dr. William M. Proctor has said, "Vocational guidance embraces all those school activities especially designed to assist individual pupils in learning about, choosing, preparing for, entering upon, and making progress in occupations." (Educational and Vocational Guidance, p. 242.) All school subjects, activities, and relationships contribute to vocational guidance. Every teacher is or should be a vocational guidance teacher in his field, and should be able to tell inquiring students just what values his subjects have in occupational activities in general, and as applied to the vocation chosen by the child.

However, the suggestions given herewith are intended for the teacher of the subject known as Vocations or Vocational Guidance. An understanding of the fields of work that are open to those who finish high school or who leave the high school before finishing, should be acquired through a study of the general fields of employment including the requirements, advantages, remuneration, and possibility for advancement in the various fields. There should be many local illustrations. The student's special fitness for the job or work he chooses should be taken up for careful individual study. If there is time, a non-technical consideration of vocational cooperation and vocational ethics is valuable. The relation of unemployment and insufficient education should also be emphasized. The United States Census classifies all occupations under nine general heads, as follows: (as given by Smith and Blough, **Planning a Career)**

1. Agricultural, Animal Husbandry, Forestry, and Fishing
2. Extraction of Minerals and Oil Refining
3. Manufactures, Mechanical Trades, Building Trades
4. Transportation and Communication
5. Commercial and Clerical Occupations
6. Public Service (Civil Service)
7. The Professions
    - Learned
    - Technical
    - Semi-Professional
8. Personal and Domestic Service
9. Miscellaneous
    - Trades
    - Non-trades

Census reports have the advantage of greater completeness than can be secured by other agencies, but they have the disadvantage of not describing accurately what the worker does, e. g., all salespeople are classified as clerks, and little account is taken of growing industries as radio, automobile and airplane industries.

The following outline, as given by **"A Study of Vocational Conditions in the City of Fresno,"** p. 174, indicates the information that is appropriate for the study of occupations:

A. Outline of occupational study for guidance

1. Name of occupation

2. General field of the occupation
3. Nature of work
    a. Occupational analysis-description of different types of work done in the vocation
4. Main advantages and disadvantages
    a. Factors that interest and develop the worker
    b. Promotional possibilities
    c. Factors that cause physical or nervous strain
    d. Factors that restrict mental growth
    e. Factors that are in other respects important as affecting the welfare of workers (i. e., liability to accidents or occupational disease)
5. Qualifications and training needed
    a. Entrance age limits
    b. Natural aptitudes
    c. General education
    d. Necessary technical education
        (1) Pre-employment
        (2) During employment through
            (a) Night school
            (b) Correspondence work
            (c) Continuation school
            (d) Cooperative classes
    e. Manipulative skill required
    f. Length of learning period
    g. Other personal requirements
    h. Extent to which the occupation can be learned in the establishment
6. Remuneration
    a. Wages for different positions
    b. Special remuneration
7. Hours of work
8. Seasonal demands in work
    a. Busy season
    b. Slack season
    c. Fluctuation in employment
9. Organization of workers
10. Supply and demand for workers
    a. Time required to learn duties
    b. Is supply of labor adequate to meet demand?
    c. Is demand for labor increasing or decreasing?
    d. What is the source of supply?
    e. Common deficiencies of workers

Industries of the community should be stressed, but study should not be limited to these, for the course should point out also the opportunities that lie beyond the immediate environment.

B. Suggested procedures

1. Textbook assignments with questions to stimulate thinking and encourage discussion about vocations, the future in each, the supply of workers, the demand for the work, etc.
2. Survey of community occupations
3. Informative talks by men recognized as leaders in vocations
4. Personal interviews with many workers in various occupations
5. Visits to industrial plants, offices, banks, stores

6. Student reports to class on various vocational topics
   a. After personal interviews
   b. After visits to industrial plants
   c. After study
7. Assigned readings
   a. Descriptions of occupations
   b. Biographies of people in work (many magazine articles)
   c. The history of any vocation
   d. Vocations attractive to women
8. Study of vocational opportunities to which specific studies lead
   a. Values of English in vocations
   b. Value of various commercial subjects
   c. What subjects develop power of organization? Power of initiative? Problem-solving?
   d. If one is planning to enter the advertising field, what subjects should be taken in high school?
   e. For what vocations is a study of economics useful?
9. Scrapbook containing clippings, pictures, and other material on occupations. This may be an individual or class enterprise.
10. Term paper on assigned or selected occupation
11. "My Career Book" containing data gathered from all sources relating to the vocation chosen by the student. Appropriate comment should be written in by the student. The sources of his material should be indicated.
12. Consultation periods for individual students. These periods are especially necessary for students when they are discouraged and are considering "dropping out" of school, and when they need advice as to future courses. Sometimes it would be well to include the parents in these consultation periods.
13. Use of diagrams, graphs, pictures, magazines, articles, special topics
14. Listing factors and qualities that are valuable in all occupations; in a specific occupation
15. Making a study of the causes of failure in business
16. Making a study of how to secure employment; how to keep it
   a. Writing letters of application
   b. Making personal application
   c. Giving references
17. Preparing a talk on "Why I Wish to Become a ——————"
18. An appreciation lesson on the glory of work and the ethics of a conscientious worker. Material of this sort is abundant; a few suggestions follow:

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- Division of Vocational Teacher Training and Research, Milwaukee
- Division of Vocational Guidance, Municipal Office Building, New Orleans. Material free
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- Vocational Guidance Bureau of the Chicago Public Schools
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- Vocational Guidance Department, Duquesne Way and Eighth Street, Pittsburgh Public Schools. Vocational Guidance Bulletin. A set of 14 monographs. 30 cents
- Vocational School, Milwaukee, Wisconsin. My Life Work Series—also 60 monographs containing accurate and interesting analyses of occupations—beautifully printed and illustrated. 15 cents each plus postage. The following are included in the series:

Metal Trades	9	monographs
Building Trades	9	"
Office Occupations	5	"
Printing Trades	5	"
The Department Store Occupation	1	monograph
The Hosiery Industry	1	"
The Shoe Industry	1	"
The Automobile Trades	1	"
The Stationary Engineer	1	"
The Retail Meat Dealer	1	"
The Retail Grocer	1	"
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Principles of Vocational Guidance. Nine pamphlets, 5 cents each. Graduate School of Education, Harvard University Press, Cambridge, Massachusetts

Watson, A Source Book for Vocational Guidance. The H. W. Wilson Company, New York. Lists vocations and gives much inspirational and biographic material of value to teachers

Teeter, Verl A., A Syllabus on Vocational Guidance. The Macmillan Company, San Francisco. 1928. This contains a wealth of references, material, and suggestions

Allen, A Guide to the Study of Occupations and Business Employments. Ginn and Company, Chicago

Hosic-Chase, Brief Guide to the Project Method. World Book Company, Chicago. 1924

Hatcher, O. L., Guiding Rural Boys and Girls. McGraw-Hill Book Company, Inc., New York. 1930. Contains very valuable materials

Proctor, W. M., Educational and Vocational Guidance. Houghton Mifflin Company, Boston. 1923. For courses in occupational information, the book contains many suggestions

Bloomfield, Readings in Vocational Guidance. Ginn and Company, Chicago

Brewer, The Vocational Guidance Movement. The Macmillan Company, San Francisco

Brewer and Others, Case Studies in Vocational Guidance. Ginn and Company, Chicago

Cohen, Principles and Practices of Vocational Guidance. The Century Company, Chicago

Charter, The Teaching of Ideals. The Macmillan Company, San Francisco

Conklin, Conversation, What to Say and How to Say It. Funk and Wagnalls Company, New York

Edgerton, Vocational Guidance and Counselling. The Macmillan Company, San Francisco. 1926. Excellent

Allen, Principles and Problems in Vocational Guidance, and Practice in Vocational Guidance. McGraw-Hill Book Company, Inc., New York. These books are a collection of the best articles of recent date (reprinted in full), concerning the organization of vocational guidance programs, classes in occupational information, procedure for gathering occupational information, uses of tests in guidance, and the placement of young workers. Published in 1927

Gruenberg, Guidance of Childhood and Youth. The Macmillan Company, San Francisco

Wright and Stevens, Reading in the Principles of Vocational Guidance. (Published by the authors, Dartmouth College, Hanover, N. H.) 1925. A set of reprinted articles from educational journals covering the major fields of vocational guidance

Bates and Wilson, Studies in Vocational Information. Longmans, Green and Company, New York. 1926. A publication devoted to the consideration of procedures for the gathering and employing of information concerning vocations

Myers, The Problem of Vocational Guidance. The Macmillan Company, San Francisco

Bowlin and Marsh, Vocational English. Scott, Foresman and Company, Chicago

Prosser and Allen, Vocational Education in a Democracy. The Century Company, Chicago

Jones, Principles of Guidance. McGraw-Hill Book Company, Inc., New York

Payne, Organization of Vocational Guidance, and Administration of Vocational Guidance. McGraw-Hill Book Company, Inc., New York

Reed, Junior Wage Earners. The Macmillan Company, San Francisco

National Society for the Study of Education—Part II, Twenty-third Yearbook. 1924. Public School Publishing Company, Bloomington, Illinois

Vocational Guidance Magazine. (Monthly, 8 times a year. $2.00.) Harvard University Press, Cambridge, Massachusetts. The organ of the National Vocational Guidance Association and the only periodical devoted exclusively to this work. Membership in the National Vocational Guidance Association, $2.00, includes a subscription to the magazine. Write to Treasurer, Miss Susan J. G. Ginn, 15 Beacon Street, Boston, Massachusetts

E. Tests

Toops, Tests for Vocational Guidance of Children. (For ages 13 to 16.) Teachers' College, Columbia University, New York

Thurstone, Vocational Guidance Tests. Tests in arithmetic, algebra, geometry, physics and technical information to determine engineering interests, to be given in senior year. Specimen set, 40 cents. World Book Company, Yonkers, New York

Thurstone, Employment Tests. (A series of examinations designed to serve as a supplement to the interview with an employee in order to determine the applicant's general fitness for the position. Especially valuable for commercial students.) World Book Company, Yonkers, New York

Eagle-Stenquist, Home Economics Test. Three series, Forms A and B. For grades 5-9. World Book Company, Yonkers, New York

Stenquist, Mechanical Aptitude Tests. Manual to be ordered separately. Tests I and II with Key and Class Record. For grades 6-12. World Book Company, Yonkers, New York

Patterson, D. G., "The Minnesota Mechanical Ability Tests." Vocational Guidance Bulletin. Vol. II, No. 9. Minneapolis Public Schools, Minneapolis. 1928

F. Vocational films and slides

The following films are furnished by Herman Ross Enterprises, Inc., 622-30 Ninth Avenue, New York:

1. The Executive—Character and ideals of a successful man—1 reel
2. The Journalist—His work and methods—1 reel
3. The Salesman—Teaching methods of correct salesmanship—1 reel
4. The Artist—Kinds of work the artist is called upon to do—1 reel

The following films are furnished by the Commercial Museum, Philadelphia:

1. America's answer—Army occupations and training—5 reels
2. Ford tractor—Uses of tractor on the farm—1 reel
3. The Ford factory—Automobile manufacture and welfare work—1 reel
4. From field to foot—Hosiery making—5 reels
5. Fascination of knitting—Making of wool—1 reel
6. Making felt hats—From fur bearing animal to finished product. Many women's occupations—1 reel
7. Making of pig iron—½ reel
8. Making rubber tires—From the trees to finished product—1 reel
9. Making the desert bloom—Variety of occupations—2 reels
10. Story of a grain of wheat—1 reel
11. Building ships—2 reels
12. Making of cut glass—2 reels
13. Visit to a shoe factory—1 reel
14. Dairy farm—1 reel

The following films are furnished by the General Electric Company, Schenectady, New York:

1. The king of the rails—Railroad building—3 reels
2. Panama Lock control—1 reel
3. Revelations—Work of electrical engineers, and work of skilled workers in the manufacture of delicate electrical apparatus—1 reel
4. Back to the farm—Farming with and without improved machinery—2 reels
5. Queen of the Waves—Water transportation—2 reels
6. The sugar trail—Beet sugar industry—1 reel
7. Butte and Anaconda and Pacific Railroad—Copper industry—1 reel
8. The land of cotton—2 reels

The Athenaeum Press, 15 Ashburton Place. Boston—the following film:
The making of school books

The Bell Telephone Company, Chicago—the following film:
Speeding the spoken word—The value of the telephone shown

Stereopticon film slides may also be secured from Akin and Bagshaw, 1425 Williams Street, Denver, Colorado. (Write for their catalogue)

The Society for Visual Education, Inc., 327 South La Salle Street, Chicago, has for free distribution to schools having stereopticon machines, some industrial Picturols illustrating various activities and occupations.

G. Fiction of vocational interest

Willa Cather's The Song of the Lark (opera singer)
D. M. Craik's John Halifax, Gentleman (a self-made man)
Margaret Deland's Dr. Lavender's People and Old Chester Tales (a pastor)
Hughes' Tom Brown at Rugby (Dr. Arnold, the teacher)
Mrs. Rhinehart's "K" (doctors and nurses)
Hardy's Far From the Madding Crowd (farmer and stock raiser)
Robert Herrick's The Common Lot (architect)
Philpott's The Joy of Youth (painter)
David Grayson's Hempfield (journalist)
W. A. White's In Our Own Town (journalists)
Ralph Connor's Sky Pilot (missionary)
Edna Ferber's So Big (gardening)
Edward Eggleston's Hoosier Schoolmaster
Lorimer's Letters from a Self-Made Merchant to His Son
S. E. White's Blazed Trail (lumbering)
John Fox's Little Shepherd of Kingdom Come (sheep herding and ministry)
Zane Grey's Young Forester
Pierre Loti's Iceland Fisherman
Margaret Bryant's Christopher Hibbault (roadmaker)
Norman Duncan's Dr. Luke of the Labrador
Hamlin Garland's Son of the Middle Border (farmer and writer)
Blackmore's Lorna Doone (farmer)

Dana's Two Years Before the Mast
Ford's The Honorable Peter Stirling (politician)
Howell's The Rise of Silas Lapham (a self-made American)
James' Lone Cowboy (cowboy life in the cowboy "lingo")
Bacheller's Coming Up the Road (a country boy and storekeeping)
Kreymborg's Troubadour (poet and playwright)
Shute, A Country Lawyer (small town lawyer)
Train, Tutt and Mr. Tutt (stories of legal battles)
O'Connor's Heroes of the Storm (life-saving service)
Drysdale's The Fast Mail (a newsboy on a fast train)
Rolt Wheeler's Boy with the U. S. Mail (mail service)
Wray's Jean Mitchell's School (teacher)
Gray's Kathleen's Probation (trained nurse)
Bassett's Paul and the Printing Press (printer)
Grenfell's Tales of Labrador (missionary with the Esquimaux)
Beach's The Iron Trail (civil engineering and railroad building)
Quick's The Brown Mouse and the Fairview Idea (farming with modern methods)
Bassett's Story of Lumber (forester)
Rolt Wheeler's Boy with the U. S. Foresters (forestry service)
London's Martin Eden (poor boy's success in writing)
Adams' The Clarion (small town editor)
Davis' Gallagher (reporter)
Faron's Peanut, Cub Reporter
Mulder's The Sand Doctor (medicine and science)
Drysdale's The Young Supercargo (merchant marine)
Porter's The Harvester (scientific study)
MacKenzie's Black Sheep (a missionary's experiences in Africa)

H. Biographies of various types of workers

Stoddard, Men of Business. Scribners
Iles, Leading American Inventors. Holt
Hubbard, Elbert, Great Scientists. The Roycrofters, East Aurora, New York
Roe, English American Tool Builders. Yale University Press, New Haven, Connecticut
Gilbert, More Than Conquerers. Century
Faris, Men Who Made Good. Revell
Hubbard, Elbert, Little Journeys to the Homes of American Statesmen. Putnams
Humphrey, Women in American History. Bobbs-Merrill
Bradford, Portraits of American Women. Houghton
Carey, Twelve Notable Women of the Ninteenth Century. Dutton
Ellet, Pioneer Women of the West. Scribners
Adams and Foster, Heroines of Modern Progress. Macmillan
Webb, Famous Living Americans. Chas. Webb Publishing Company, 55 East Tenth Street, St. Paul, Minnesota
Sparks, Worth While Americans. F. M. Ambrose and Company, 171 West Madison Avenue, New York
Muir, Story of My Boyhood and Youth. Houghton
Cody, Life of Buffalo Bill. Harper
Bok, A Dutch Boy Fifty Years After. Scribners
Autobiography of Benjamin Franklin. Holt
Booker T. Washington's Up From Slavery. Doubleday
Riis, The Making of an American. Macmillan
Smith, Life of Chinese Gordon. Revell
Hankey, A Student in Arms. Dutton
Shaw, Anna Howard, Story of a Pioneer. Harpers
Keller, Story of My Life. Grossett
Gilchrist, Life of Mary Lyon. Houghton
Red Cross Story of Clara Barton. American Red Cross, Washington, D. C.
Crow, Harriet Beecher Stowe. Appleton
Paget, The Life of Pasteur. Macmillan
Richards, Florence Nightingale, Appleton

PART FOUR—WORLD HISTORY

I. Introductory Statement

The teacher of World History in Montana high schools has a unique opportunity. With the curriculum organized as it is today, World History presents the student's only opportunity to trace actual human development outside of his own country.

All efforts to secure world peace and international understandings depend for their acceptance upon a world opinion which today is ignorant, suspicious, selfish and nationalistic. What is needed today is an international mindedness which knows that, "Above all nations is Humanity." By this is meant not the rejection of one's own country, but the realization that one lives in a world of neighbors who are brought closer and closer together by yearly progress in transportation and communication.

Hendrick Van Loon says of the lesson to be learned from history: "Above all things mankind shall say 'yes' to Life and, armed with patience, forbearance and goodnatured humor, he shall relentlessly push forward into the realm of the unknown . . . . . and show how certain things happened to happen the way they actually happened because that was the only way they could possibly happen, and along which lines we may hope for the ultimate emancipation of mankind from that cruel tyranny which for so many hundreds of thousands of years has turned this earth into a shamble and which was the direct and inevitable outcome of man's cowardice when face to face with his prejudices and ignorance." If World History is to be justified it must possess more than an antiquarian interest for its students. The integrity of the subject must be respected and the teacher must not insert didactic interpretations not justified by the facts.

II. World History Aims

Many of the aims of history are mentioned in the general introduction to the social studies. More specifically the World History aims are:

A. To develop a better international understanding

B. To show that in a world of different peoples, customs, institutions and ideals, tolerance must be accepted and practiced as one of the cardinal personal group ideals in order that provincialism and chauvinistic "bombast" may be dispelled

C. To show that all races and all times have contributed to present day civilization. Our institutions have been gained after and by long struggle and sacrifice.

D. To teach an appreciation and understanding of the present by observing how it came to be (its continuity with the past) by emphasizing the idea of change in order to show the nature of progress, to develop the realization that the present is in the midst of progress so that it will be possible to plan and guide social change. The problems of the present must be attacked without fear and trembling because their solution may be an entire departure from the good old days. To a certain extent, history must be disregarded, i. e., we of the twentieth century must not adhere to the hoary standards of the past merely because of their age.

E. To show the need for able leadership in human affairs and an intelligent support of that leadership

F. To show that true progress for the human race has been made in time of peace through cooperative labor

G. To create an adequate background and perspective for the history of our own country, the sources of which may be traced to so many other countries; and to show that American history is but the Old World Civilization adapted to new conditions

H. To show the influence of geography on the development of national character and the promotion of national welfare

The foregoing statements of the aims of history constitute a huge program for one year of high school work, since the exigencies of the present situation allot but one year. The classroom teacher's task is to shoulder the load.

III. Attainments

The course of study in World History is planned for a year's work and its completion entitles the student to one unit of credit. In the great majority of schools the subject is given in the tenth (sophomore) year.

IV. Methods of Procedure

One of the first problems to be faced in teaching the World History Course will be that of selecting the units of work and the procedure to be followed in each. An excellent plan is to be found in "Tryon's **The Teaching of History in Junior and Senior High Schools**, pp. 44-46. The Iowa Course of study has each unit outline divided into: unit objective, specific objectives, pupil activities, teacher procedures and evidences of mastery.

A. Some valuable suggestions for teaching World History

1. Teaching how to study history
2. Showing the effects of geography on history
3. Making a list of causes and effects
4. Oral and written reports
5. Making maps
6. Making recognition lists of important people and events
7. Interpreting cartoons, graphs, charts, maps
8. Making cartoons, graphs and charts
9. Constructing chronological charts with the use of data lines, events, and characters
10. Making comparative studies
11. Defining terms
12. Telling the story of various movements
13. Writing themes on individual topics
14. Writing dramatizations and dramatizing
15. Debating
16. Preparing outlines and summaries for the notebook in history
17. Listing the contributions of each epoch (each people)
18. Developmental readings in fiction and biography

19. Using source materials. "It is generally accepted that the reading of contemporary accounts imparts to the student of history a flavor of immediacy that makes for deeper interest and better recollection on the part of students."
20. Review. The last of the steps in procedure for each topic or unit and for the semester or course should always be review. This should be a new view of the whole if possible.

Each teacher will have to decide for himself, in the light of his school's equipment, which one of the above steps to use, on what topics to use it and where to use it. The attitudes, motives, and methods with which people of the past approached their problems and the effect of that attitude on the solution may well be considered in World History classes.

V. Content and Time Allotment

Several authorities, and some of the now plentiful "student guide sheets", "directed study books", or "workbooks", were examined for the purpose of securing suggestions for list of topics and a reliable time schedule for this outline. In the following no attempt is made to present a full subject-matter outline. This is left for the teacher who should distribute the time to be devoted to each large division among its several sub-topics in accordance with the text used and the library facilities at the teacher's command. The daily outline must be made by the teacher who certainly should know best how to make up the detailed plan for her own classes. A specimen unit is developed as an example for the teacher of what may be done with all units.

While it is not expected that the following schedule will be adhered to strictly in every case, it should be a helpful guide for the teacher in planning the year's program:

Part I (First semester)

A.	Introduction	½ week
	What is History? Of what use is it to me?	
	What are the high spots in the history of history?	
	What are the sources of history?	
	What tools do we have in the study of history? (Indices, guides, almanacs, atlasses)	
	How can I learn to use them efficiently?	
B.	Primitive Man and the Beginnings of Civilization Include the Americas)	1 week
C.	The Development of Civilization in the Ancient Orient	1½ weeks
D.	Greek Civilization Enlightening the World	2 weeks
E.	The Classical Age in Asia	1 week
F.	Western Civilization Continues in the Roman World	3 weeks
G.	A Period of Transition and Fusion (Include Christion, Teutonic, Mohammedan)	2 weeks
H.	The Middle Ages	2 weeks
I.	The Transition from Medieval to Modern Civilization	2 weeks
J.	The Old Regime	3 weeks
	In each of the leading countries	
	Mercantilism and colonization	
	Balance of power	
	National aggrandizement	

Part II (Second semester)

K. Political Revolutions	3 weeks
L. How the Industrial Revolution Transformed the World	1 week
M. Nationalism	2 weeks
N. Democracy and Liberalism	1 week
O. Imperialism	3 weeks
P. The World War	3 weeks
Q. Cultural Progress Science Emancipation of women Socialism Social reform	1 week
R. Modern World Civilization and Internationalism Commerce Transportation and communication Big business and urbanization League of Nations and World Court Movement toward World Peace	2 weeks
S. Review and Summary	2 weeks

After having decided upon the Units of Study to be used in teaching World History, the teacher will be concerned as to the organization of the unit. The following specimen unit on the Greeks is given herewith to offer suggestions on the steps in procedure in the teaching of a large unit in history.

VI. Specimen Unit (Topics D and E, The Greeks)

The teacher will introduce this topic with an enthusiastic talk showing the rise of the Greeks, the main points in their history and their contributions to civilization. He will compare Greek life and ideals with the life and ideals of today. He will do well to refer to wall maps and pictures dealing with the topic; that is, the geographical background should not be neglected.

The students and teacher in company may then browse through the text material covering this subject so the students will get some idea of what material is available and where they may find it. The next step will be the reading of the text account by the students.

The attention of the class may then be drawn to the historical fiction, the collateral references, and the sources. Each student may be asked during progress on the work sheet to read several sources from different periods of Greek history, and additional material from some other book than his text. Usable class or committee projects could include the construction, on an outline wall map, of the eastern Mediterranean world at about 1800 B. C., at 1500 B. C., at 1000 B. C.; or a map of Athens, etc.

To have available an illustrated story of art showing the Greek contributions and to encourage the pupils to dip into it would be a valuable activity.

In schools with a limited library it will be advisable to eliminate some of the work sheet questions or to substitute others for which reference material is readily available.

A. The following is a list of references dealing with this unit:

1. Chapter titles in Breasted, Ancient Times (Ginn & Co., Chicago), pp. 221-483

The Aegean World
The Greek Conquest of the Aegean World
Greek Civilization in the Age of the Kings
The Industrial Revolution and the Age of the Tyrants
The New World of Culture
The Repulse of Persia
The Growing Rivalry between Athens and Sparta and the Rise of the Athenian Empire
The Final Conflict Among the Greek States
The Higher Life of the Greeks from the Death of Pericles to the Fall of the Greek States
Alexander the Great
The Heirs of Alexander
The Civilization of the Hellenistic Age

2. Text references (See bibliography at end of outline)

Barnard and Roorbach, Epochs of World Progress, pp. 48-89
Botsford, History of the Ancient World. pp. 31-86
Bury, A History of Greece, The Macmillan Company, San Francisco
Elson, Modern Times and the Living Past, pp. 60-132
Goodspeed, History of the Ancient World, pp. 65-275, especially paragraphs 204-209 and 227-229
Hayes and Moon, Ancient and Medieval History, pp. 121-240
McKinley, Howland and Dann, World History in the Making, Vol. I, pp. 69-196
Perkins, A History of European Peoples, pp. 40-133
Robinson, Smith and Breasted, Our World Today and Yesterday, pp. 27-57
Schapiro and Morris, Civilization in Europe, pp. 20-44
Webster, Early European History, pp. 65-135
West, The Story of World Progress, pp. 53-147
West, Early Progress, pp. 82-236

3. Supplementary references

Hawes, Crete, The Forerunner of Greece. Harper and Bros., New York
Baikie, The Sea Kings of Crete. The Macmillan Company, San Francisco
Clodd, The Story of the Alphabet. D. Appleton and Company, New York
A book of Greek myths. Any one of the following:
  Baker, Stories of Old Greece and Rome. The Macmillan Company, San Francisco
  Bulfinch, The Golden Age of Myth and Legend. F. A. Stokes and Company, New York
  Fairbanks, The Mythology of Greece and Rome. D. Appleton and Company, New York
  Gayley, The Classic Myths in English Literature and in Art. Ginn and Company, Chicago
  Guerber, Myths of Greece and Rome. The American Book Company, Chicago
  Tatlock, Greek and Roman Mythology. The Century Company, New York
A History of Education. (Any good one dealing with Greek education)
Reinach, Apollo. An illustrated manual of the history of art. Chas. Scribner's Sons, Chicago
Tarbell, A History of Greek Art. The Macmillan Company, San Francisco
Osgood, A History of Industry. pp. 64-89
Tucker, Life in Ancient Athens. The Macmillan Company, San Francisco
Haaren and Poland, Famous Men of Greece. American Book Company, Chicago
Greek Lives from Plutarch. Any edition
"Herodotus" edited by King. Doubleday, Doran and Company, Garden City, New York
Botsford, A Source Book of Ancient History. The Macmillan Company, San Francisco
Davis, Readings in Ancient History: Greece and the East. Allyn and Bacon, Chicago
Webster, Readings in Ancient History. D. C. Heath and Company, Chicago
Thalen, Readings in Greek History. Ginn and Company, Chicago
Fling, A Source Book of Greek History. D. C. Heath and Company, Chicago
Davis, A Day in Old Athens. Allyn and Bacon, Chicago
Gulick, Life of the Ancient Greeks. D. Appleton and Company, New York
Abbot, Pericles and the Golden Age of Athens. G. P. Putnam's Sons, New York
Mahaffy, Old Greek Life. American Book Company, Chicago
Durant, Story of Philosophy: Chapter I on the Greek philosophers
Taylor, Prophets, Poets and Philosophers of the Ancient World. The Macmillan Company, San Francisco

Van Loon, Story of Mankind. pp. 42-87
Wheeler, B. I., Alexander the Great. G. P. Putnam's Sons, New York
Thorndike, Short History of Civilization, pp. 67-163
James, H. R., Our Hellenic Heritage. The Macmillan Company, San Francisco
Robinson, The Days of Alcibiades. Longmans, Green and Company, New York
Weller, Athens and Its Monuments. The Macmillan Company, San Francisco
Wells, Outline of History. The Macmillan Company, San Francisco
Creasy, Fifteen Decisive Battles of the World. E. P. Dutton and Company, Inc., New York
Wright, Masterpieces of Greek Literature. Houghton Mifflin Company, Boston
Seignobos, History of Ancient Civilization. Chas. Scribner's Sons, Chicago
Rostovtsev, M. I., History of the Ancient World. 2 vols.. Oxford University Press, New York
Browning, E. B., The Dead Pan; Hectoı and Andromache; A Musical Instrument. In any complete edition of Mrs. Browning's poems
Browning's Pheidippides, in any Browning collection
Ingelow, Jean, Demeter and Persephone. A very pleasing poem of 16 stanzas
Bryant's Translation of Homer's Odyssey
Butcher and Lang's Translation of Homer's Odyssey
Lang's Translation of Homer's Iliad
Shakespeare, Troilus and Cressida
Syllabi for Ancient History, Allyn and Bacon, San Francisco

4. Historical fiction

Time	Author	Title	Publisher
1149 B. C.	Hutchinson	The Sunset of the Heroes	Dutton
480 B. C.	Snedeker	The Perilous Seat	Doubleday
480 B. C.	Snedeker	The Spartan	Doubleday
480 B. C.	Davis	A Victor of Salamis	Macmillan
459-429 B. C.	Atherton	The Immortal Marriage	Boni
460-430 B. C.	Hamerling	Aspasia	Geo. G. Peck New York
431-404 B. C.	Mitchison	Cloud Cuckoo Land	Harcourt
356-336 B. C.	Kirkman	The Romance of Alexander the Prince	Cropley, Phillips Co. New York
336-331 B. C.	Fuller	The Golden Hope	Grosset
146 B. C.	Church	The Lords of the World	Scribner

Work Sheet on the Greeks

(The teacher will add the textbook references for each question)

I. A. As you study from question to question, place the more important events on a time line.
B. Memorize the list of dates at the end of the work sheet.

II. What was the effect of Geography on Greek History? Breasted; Ancient Times—paragraphs 326-328, 330-333, 351, 383, 413, 424, 436, 513.
Be able to locate the places listed at the end of the work sheet.

III. On what period of Greek history are the Homeric poems based? Are they characteristic of the life of the period? Breasted: Chapter IX, especially paragraph 375 and Sections 41-42.

IV. Make a list of the evidences of the influence of the Orient on the Greeks, especially that of the Hittites, the Phoenicians and the Lydians. Breasted: Sections 39-40, paragraphs 450-459.

V. As the population of Greece increased toward the end of the Homeric Age, what steps did the Greeks take to remove the pressure of population on the food supply?
List two means by which they increased their food supply and two ways of reducing the population. Breasted: paragraphs 430-437, 452-463, 532, 536-537.

VI. Outline from your textbook the development of industry in Greece.

VII. A. On an outline map show where the Greeks colonized and indicate also the neighboring peoples.
B. Why is Greek colonization important to us? Breasted: paragraphs 439-443.

VIII. A. Outline the political history of Greece from your textbook. At several turning points indicate what was happening in Italy at the same time.

B. What did Solon make the Athenian citizen do? Van Loon, Story of Mankind, pp. 64-68. Breasted, paragraphs 468-472.

C. How was Athens governed? Breasted, paragraphs 528-531, 568, 609, 619-625.

D. Compare the government of Athens with a modern government. Grant, Chapters I and VII. Breasted, paragraphs 619-625.

E. Compare the interest in government described in Breasted, paragraphs 568 and 571, with the interest shown in government in your community. Why is there a difference?

IX. A. What consequences followed in the mind of Thales after the prediction of an eclipse? Breasted, paragraph 492. Botsford, pp. 151-152.

B. In what way was this the beginning of science? Breasted, paragraph 495. Van Loon, Tolerance, Chapter II.

X. A. List in parallel columns the forces of unity and of disunity among the Greeks. Breasted, paragraphs 424-427, 444-451, 478, 676.

B. What were the results of their failure to unite? Breasted, paragraphs 502 to 509, 514, 522; Chapters 16-17, paragraphs 683 to 688, 721, 726.

C. Compare the disunity among the Greek city-states with the disunity among the nation-states of today.

XI. Compare the training of a Spartan and an Athenian boy. Breasted, paragraphs 480-481, 519 to 522, 554 to 560, 755 to 762. Stuart, The Boy Through the Ages.

XII. The battles of Marathon, Salamis, Syracuse, and Arbela are often placed among the "Fifteen Decisive Battles of the World." Why? Breasted, paragraphs 505. 518-519, 607, 609, 697-698. Van Loon, Story of Mankind, p. 80. Botsford, pp. 321, 180-191.

XIII. A. What became of the Delian League? Why? Breasted, paragraphs 544, 587 to 590.

B. Compare the Athenian Empire with the British Empire of today. Breasted, Section 57 to 59.

XIV. A. After taking an imaginary walk up to the Acropolis write a brief description of what you saw there. Name the buildings, tell the style of architecture, describe the sculptures, name the sculptors, tell the purpose and qualities of the buildings.

B. Locate and list examples of the three main types of Greek architecture to be found in your town. Breasted, pp. 340 and 407.

XV. Compare the construction, character and place in the life of the community of the Greek theater with the "movie" of today. Breasted, paragraphs 585-586.

XVII. Characterize the Greek arts. Breasted, paragraphs 572 to 584 of Section 61; paragraphs 732, 736 to 739, 754.

XVIII. Compare the spirit or attitude of Herodotus with that of Thucydides. Breasted, paragraphs 567, 667. Goodspeed, paragraph 227.

XIX. Imagine yourself on the Pnyx (Breasted, page 343) at the end of the first part of the Peloponnesian War delivering the national eulogy over the Athenian dead. Memorize three paragraphs of this speech.

XX. What is philosophy?
Name four Greek philosophers. Breasted, paragraphs 662, 672, 760, 761.

XXI. On an outline map bound Alexander's Empire and locate the principal cities.

XXII. A. What do you understand by "Hellenizing the Orient"? Breasted, paragraph 727, section 71.
B. What happened to the relations of the East and West during this time? Davis' Readings No. 117. Wells, Outline of History, Chapter 24, part 3.

XXIII. Write a paragraph comparing the cosmopolitanism of the Hellenistic Age with that of today, keeping in mind the present unity of the world by means of steamboats, railroads, telephones, telegraph, newspapers, radio, League of Nations, Locarno Pact, World Court and the Kellogg-Briand Treaty. Breasted, paragraphs 674 to 677.

XXIV. List the principal contributions of the Greeks to civilization. Include the ideals which they contributed. Marshall: Readings in the Story of Human Progress, pp. 488 to 451.
Breasted, paragraph 496
Van Loon, Story of Mankind, pages 60, 65, and 68 to 70
Osgood, History of Industry, pages 84-85
Goodspeed, p. 164, paragraph 204, p. 159 and paragraph 209
Tucker, Ch. 17
A History of Art showing Greek Art, Sculpture and Architecture

XXV. Identify the following terms, dates and people:

democracy
Acropolis
Iliad
Odyssey
oracles
drama
Hellenistic
Aetolian
amphictyonies
ostracism
Parthenon
Cosmopolitanism
Achaean
Hellas

Homer
city-state
Imperialism
Doric
Ionic
Corinthian
Plato
Dionysus
Herodotus
Archimedes
Solon
Apollo
Aphrodite
Hippocrates

Phidias
Aristotle
Sophocles
Thucydides
Alcibiades
Zeus
Athena
Thales
Pericles
Socrates
Euclid
Alexander
Demosthenes
Delian League

Places

Salamis
Sardis
Aegean Sea
Macedonia
Sparta
Attica
Peloponnesus
Black Sea
Pergamum

Marathon
Mycenae
Hellespont
Olympia
Himera
Piraeus
Arbela
Alexandria
Corinth

Thermopylae
Troy
Magna Graecia
Delphia
Athens
Syracuse
Chaeronea
Crete
Laconia

Dates

1600 to 1500 B. C........Grand Age in Aegean Crete
1000 to 750 B. C........Homeric Age
750 to 650 B. C........Colonization. Age of Nobles
585 B. C......................Thales. Industrial Revolution in progress

539 B. C.	Tyrant Pisistratus moves feast of Dionysus to Athens. Cyrus in Persia
499 to 479 B. C.	Persian Wars
460 to 429 B. C.	Age of Pericles
399 B. C.	Death of Socrates
338 B. C.	Battle of Chaeronea. Latin War in Italy
323 B. C.	Death of Alexander
146 B. C.	Destruction of Corinth and Carthage by Rome

Students who finish this work sheet ahead of the majority of the class may be given extra credit for outside reading, writing themes on some phase of the subject, making of charts, cartoons, maps or diagrams, etc. An examination of mastery should be given when practically all of the students have completed the work sheet. This test may disclose certain gaps in the knowledge of a group in the class. If the entire class is weak in part of the topic, then it will have to be retaught with an adaptation of procedure.

Each student will be expected to give a floor talk on some phase of this topic, e. g., on one of the noted men or on one of the work sheet questions, or perhaps the student will want to explain a chart, graph, or map. Students with a dramatic trend could write and give a playlet based on some phase of Greek history.

Specimen test questions

Athens' combined college, theatre, newspaper was called the ——— of Dionysus.

The style of writing used by Thucydides may be compared with that of the ——— Magazine while the style of Herodotus may be compared with that used by the ——— Magazine.

The southeastern edge of Alexander's empire was the ——— river.

Which represents the longest and which the shortest period of time?

A. Beginning of the Homeric Age to Thales
B. End of the Age of the Nobles to Marathon
C. Pericles to Alexander
D. End of Homeric Age to Socrates
E. Aegeans to Industrial Revolution
Longest is ———, Shortest is ———.

Alice Gibbons gives the following questions in Tests in the Social Studies (134): The study of Greece has helped to show that a brilliant and many-sided civilization can best be produced:

A. Where there is a democratic form of government
B. Where government closely regulates the lives of the people
C. Where worth and creative ability in individuals are recognized and encouraged regardless of the class of society in which they are found.
(Choose one letter)

The Denver Test in World History I gives the following question:

The real significance of the outcome of the Persian Wars is that:

A. Athens, the center of Greek culture, was burned
B. European Greece was saved from Asiatic despotism
C. The civilization of the Age of Pericles was made possible
D. The Peloponnesian Wars weakened the Greek states and made Alexander's task easy
E. The Greeks developed a national union of democracies.
(Mark each lettered statement true or false)

The Sloyer Test gives several completion questions for this topic. The Harlow Publishing Co., Ancient and Medieval History Test No. 2 is on this topic

VII. The Testing Program

A list of standardized tests for use in World History is given in the general introduction.

Any teacher by a careful study of the new tests may learn to construct his own for informal use. Regardless of the kind of test used he must know why he is giving the test and for what he is testing. Evidences of mastery of a subject given in the Iowa course of study are for the student to be able to:

1. Discuss in a theme or floor talk certain historical personages
2. Compare the life of different periods of history
3. Explain the influence of geography
4. Outline the unit
5. Write an imaginary account, such as a diary or letter, of a phase of history
6. Show changes by means of maps or charts
7. Know the key dates, people, terms and places

VIII. Bibliography of World History Course

A. Texts

(The starred texts represent the best one-volume editions for Montana high schools.)

Barnard and Roorbach, Epochs of World Progress. 2 vols. Henry Holt and Co., Inc., New York. 1927

Botsford, Brief History of the World. The Macmillan Company, San Francisco

*Elson, Modern Times and the Living Past. American Book Company, Chicago. 1928. (With a workbook)

Hayes, Moon and Wayland, General History, with teacher's manual. The Macmillan Company, San Francisco. 1932

McKinley, Howland and Dann, 2 vols. World History in the Making and World History Today. American Book Company, Chicago. 1927 and 1929. (With a very good teacher's manual)

*Perkins, A History of European Peoples. Rand McNally and Company, San Francisco. 1927. (With a workbook)

Robinson, History of Western Europe, 2 vols. Ginn and Company, Chicago. 1924 and 1926

Robinson and Beard, 2 vols. Ancient and Medieval History and Our Own Times, respectively. Ginn and Company, Chicago. 1920 and 1921

*Robinson, Smith and Breasted. Our World Today and Yesterday. Ginn and Company, Chicago. 1924

*Schapiro and Morris, Civilization in Europe. Houghton Mifflin Company, Boston. 1930. (With workbook)

*Webster, History of Mankind. D. C. Heath and Company, Chicago. 1928

*West, The Story of World Progress. Allyn and Bacon, Chicago, 1928

B. Workbooks, guide sheets, etc.

Barnes, Directive Study Sheets in World History. Houghton Mifflin Company, Boston

Elson, Workbook for Elson's Modern Times and the Living Past. The American Book Company, Chicago

Ferguson, A Student's Guide in World History. Course A and B. (Two years' work.) Iroquois Publishing Co., Inc., New York

Magenis, Alice, and Gilmour, M. F., Directed High School History Study. Book I (Prehistoric Times to 1789). Book II (1789 to the present). World Book Company, Yonkers, New York, 1932

Moe and Thorpe, Laboratory Manual for Modern European History. D. C. Heath and Company, Chicago

Perkins, A Directed Study Notebook for World History. Rand McNally and Company, San Francisco

Schapiro and Morris, Workbook to Accompany Civilization in Europe. Houghton Mifflin Company, Boston

Smith, A New Approach to European History. University of Chicago Press, Chicago

Syllabi for Modern History. Allyn and Bacon, San Francisco

C. Source material

The Bible, Old and New Testaments
Adams and Stephens, Select Documents of English Constitutional History. The Macmillan Company, San Francisco
Botsford, Source Book of Ancient History. The Macmillan Company, San Francisco
Cheyney, Readings in English History. Ginn and Company, Chicago
Davis, Readings in Ancient History, 2 vols. Greece and the East; and Greece and the West. Allyn and Bacon, San Francisco
Fling, Source Book in Greek History. D. C. Heath and Company, Chicago
Fling and Fling, Source Problems on the French Revolution. Harper and Bros., New York
Hill, Liberty Documents. Longmans, Green and Company, New York
Marshall, Readings in the Story of Human Progress. The Macmillan Company, San Francisco
Munro, A Source Book of Roman History. D. C. Heath and Company, Chicago
Plutarch's Lives, 3 vols. Translated by A. H. Clough, Everyman's Library. E. P. Dutton and Company, Inc., New York
Ogg, A Source Book of Medieval History. The American Book Company, Chicago
Robinson and Beard, Readings in Modern European History, 2 vols. Ginn and Company, Chicago
Robinson, Readings in European History, 2 vols. Ginn and Company, Chicago
Scott and Baltzly, Readings in European History Since 1814. F. S. Crofts and Company, 41 Union Square, New York
Thatcher and McNeal. A Source Book of Medieval History. Charles Scribner's Sons, Chicago
Webster, Readings in: Ancient History; Medieval and Modern History; Early European History; Modern European History. D. C. Heath and Company, Chicago

D. Supplementary texts and special books

Abbott, F. F., Common People of Ancient Rome. Chas. Scribner's Sons, Chicago
Abbott, W. C., Expansion of Europe. Henry Holt and Co., Inc., New York
Adams, G. B., Civilization During the Middle Ages. Chas. Scribner's Sons, New York
Archer and Kingsford, The Crusades. G. P. Putnam's Sons, New York
Ashley, Early European and Modern European History. The Macmillan Company, San Francisco
Baikie, Life of the Ancient East. The Macmillan Company, San Francisco
Bailey, The Legacy of Rome. Oxford University Press, New York
Beard, Whither Mankind. Longmans, Green and Company, New York
Becker, History of Europe, 2 vols. Silver, Burdett and Company, Chicago
Belloc, H., The Contrast. Robt. M. McBride and Company, New York
Besant, Story of King Alfred. D. Appleton and Company, New York
Bragg, W. H., Creative Knowledge; Old Trades and New Science. Harper and Brothers, New York
Breasted, Ancient Times. Ginn and Company, Chicago
Bullard, Diplomacy of the Great War. The Macmillan Company, San Francisco
Bulfinch, The Age of Chivalry. E. P. Dutton and Company, Inc., New York
Burns, C. D., Short History of International Intercourse. Oxford University Press, New York
Bury, History of the Roman Empire. The American Book Company, Chicago
Bryce, Modern Democracies. 2 vols. The Macmillan Company, San Francisco
Chapman, A History of Spain. The Macmillan Company, San Francisco
Cheyney, Introduction to the Social and Industrial History of England. The Macmillan Company, San Francisco
Cheyney, Short History of England. Ginn and Company, Chicago
Chitwood, Immediate Causes of the Great War. T. Y. Crowell Company, New York
Clodd, Story of Primitive Man. D. Appleton and Company, New York
Cobb, Pathways of European People. G. P. Putnam's Sons, New York
Cooper, Understanding Italy. The Century Company, New York
Cunningham, Western Civilization. Vol. I. The Macmillan Company, San Francisco. One of the best books on the economic phase of ancient history
Daniels, The Rise of the German Republic. Charles Scribner's Sons, Chicago
Davis, History of France to the Treaty of Versailles. Houghton Mifflin Company, Boston
Davis, Roots of the War. The Century Company, New York
Day, Social Life of the Hebrews. Charles Scribner's Sons, Chicago
Douglas, Europe and the Far East. The Macmillan Company, San Francisco
Durant, The Story of Philosophy. Simon and Schuster, Inc., New York
Emerton, Introduction to the Middle Ages. Ginn and Company, Chicago
Fay, Origins of the World War. A. C. McClurg and Company, Chicago
Firdausi, The Epic of Kings, retold by H. Zimmern. The Macmillan Company, San Francisco

Fisher, History of the Christian Church. Charles Scribner's Sons, Chicago
Friedlander, Town Life in Ancient Italy. Benj. H. Sanborn and Company, Chicago
Fyffe, History of Modern Europe (single volume edition). Henry Holt and Co., Inc., New York
Gardner, Student's History of England. Longmans, Green and Company, New York
Gibbs, Now It Can Be Told. Harper and Brothers, New York
Gibbons, History of Commerce in Europe. The Macmillan Company, San Francisco
Green, Short History of the English People. Harper and Brothers, New York
Guerber, Story of Our Civilization—Legends of the Middle Ages. American Book Company, Chicago
Halleck and Frantz, Our Nation's Heritage. American Book Company, Chicago
Hammerton, Wonders of the Past. (4 vols. profusely illustrated.) G. P. Putnam's Sons, New York
Happold, F. C., The Adventure of Man. Harcourt, Brace and Company, NewYork
Hay, The First Hundred Thousand. Grossett and Dunlap, New York
Hayes, C., Brief History of the War. The Macmillan Company, San Francisco
Harding, New Medieval and Modern History. American Book Company, Chicago
Hazen, Fifty Years of Europe, 1870-1919. Henry Holt and Company, New York
Henderson, Short History of Germany. 2 vols. The Macmillan Company, San Francisco
Herrick, History of Commerce and Industry. The Macmillan Company, San Francisco
Hankey, A Student in Arms. E. P. Dutton and Company, Inc., New York
Hudson, World Court, 1922-1929. World Peace Foundation, 40 Mount Vernon Street, Boston
Hughes, Alfred the Great. The Macmillan Company, San Francisco
James, Abbeys. Doubleday, Doran and Company, Garden City, New York
Jessup, The Coming of the Friars. G. P. Putnam's Sons, New York
Johnston, H. E., Private Life of the Romans. Scott, Foresman and Company, New York
Johnston, Napoleon. A. S. Barnes and Company, New York
Johnston and Spencer, Ireland's Story. Houghton Mifflin Company, Boston
Kirkup, History of Socialism. The Macmillan Company, San Francisco
Lamprey, L., Children of Ancient Egypt. Little, Brown and Company, Boston, Massachusetts
Latourette, Development of Japan. The Macmillan Company, San Francisco
Low, History of England. Rand McNally and Company, Chicago
Lowell, The Eve of the French Revolution. Houghton Mifflin Company, Boston
McPherson, A Short History of the World War. G. P. Putnam's Sons, New York
Marshall, The Story of Human Progress. The Macmillan Company, San Francisco
Maspero, Life of Ancient Egypt and Assyria. D. Appleton and Company, Chicago
Matthews, Shailer, The French Revolution. Longmans, Green and Company, New York
Maxwell, M., The Story of Books. Harper and Brothers, New York
Montague, Elements of English Constitutional History. Longmans, Green and Company, New York
Moon, Imperialism and World Politics. The Macmillan Company, San Francisco cisco
Moore, Siberia Today. D. Appleton and Company, New York
Munro, The Middle Ages. The Century Company, New York
Ogg, Economic Development of Modern Europe; Governments of Europe; Social Progress of Contemporary Europe. The Macmillan Company, San Francisco
Osborne, Men of the Old Stone Age. Charles Scribner's Sons, Chicago
Osgood, A History of Industry. Ginn and Company, Chicago
Parsons, G., The Stream of History. Charles Scribner's Sons, New York
Plum and Benjamin, Modern and Contemporary European Civilization. J. B. Lippincott Company, Chicago
Quennell, Several titles
Rambaud, History of Russia. 3 vols. Dana Estes and Company, New York
Reinach, Apollo. Charles Scribner's Sons, Chicago
Reinsch, World Politics at the End of the Nineteenth Century. The Macmillan Company, San Francisco
Ross, The Changing Chinese. The Century Company, New York
Rostovtsev, M. I., The History of the Ancient World. 2 vols. Oxford University Press, New York
Rugg, Changing Civilizations in the Modern World. The Macmillan Company, San Francisco
Rush and Winslow, Modern Aladdins and Their Magic. Little, Brown and Company, Boston
Schapiro, Modern and Contemporary History. Houghton Mifflin Company, Boston
Schevill, Political History of Modern Europe. Harcourt, Brace and Company, New York
Scott, Introduction to the Peace Treaties. University of Chicago Press, Chicago
Seebohm, The Era of the Protestant Revolution. Longmans, Green and Company, New York

Seignobos, History of Ancient and Modern Civilization to the End of the Seventeenth Century, and History of Contemporary Civilization. Charles Scribner's Sons, Chicago
The Feudal Regime. Henry Holt and Company, Inc., New York
Seymour, Diplomatic Background of the War. Yale University Press, New Haven, Connecticut
Simonds, History of the World War, 5 vols. Doubleday, Doran and Company, Garden City, New York
Showerman, Rome and the Romans. The Macmillan Company, San Francisco. 1931
Skrine, Expansion of Russia. G. P. Putnam's Sons, New York
Slosson, Twentieth Century Europe. Houghton Mifflin Company, Boston
Stuart, The Boy Through the Ages. Doubleday, Doran and Company, Garden City, New York
Symonds, Short History of the Renaissance in Italy. Henry Holt and Company, Inc., New York
Tappan, When Knights Were Bold. Houghton Mifflin Company, Boston
Tardieu, Andre, The Truth About the Treaty. Bobbs-Merrill Company, Indianapolis
Taylor, Classical Heritage of the Middle Ages. The Macmillan Company, San Francisco
Thayer, Throne Makers. Houghton Mifflin Company, Boston
Thorndike, Short History of Civilization. Houghton Mifflin Company, Boston
Thurston, History of the Growth of the Steam Engine. D. Appleton and Company, New York
Tucker, Life in the Roman World of Nero and St. Paul. The Macmillan Company, New York
Turner, Europe, 1450-1789; Europe, 1789-1920; Ireland and England. Doubleday, Doran and Company, Garden City, New York
Usher, Story of the Great War. The Macmillan Company, San Francisco
Van Dyke, Out-of-Doors in the Holy Land. Charles Scribner's Sons, Chicago
Van Loon, H., The Story of Mankind. The Macmillan Company, San Francisco
Van Loon, Tolerance. Boni and Liveright, 61 W. 48th Street, New York
Walsh, The Fall of the Russian Empire. Little, Brown and Company, Boston
Weaver, E. P., The Book of Canada. Doubleday, Doran and Company, Garden City, New York
Webster, History of the Far East; History of Latin America; Early European History; and World History. D. C. Heath and Company, Chicago
West, 2 vols., Early Progress, and Modern Progress. Allyn and Bacon, Chicago
Wetherell, Strange Corners of the World. Thomas Nelson and Sons, New York
Whitcomb, A Young People's Story of Art. Dodd, Mead and Company, Inc., New York
Whitlock, Belgium, 2 vols. D. Appleton and Company, New York
Wilkins, Roman Antiquities. The American Book Company, Chicago
Williams, China, Yesterday and Today. T. Y. Crowell and Company, New York
Wilmot, Buxton, Story of the Crusades. T. Y. Crowell and Company, New York
Wilson, The Living Pageant of the Nile. Bobbs-Merrill Company, Indianapolis
Wilson, Paris on Parade. Bobbs-Merrill Company, Indianapolis
Winckler, History of Babylon and Assyria. Charles Scribner's Sons, Chicago
Wrench, The March of Civilization. Charles Scribner's Sons, Chicago

E. Poetry and drama

Byron, Song of Saul; The Destruction of Sennacherib; Belshazzar's Feast; The Eve of Waterloo
Aytoun, Wm. E., Lament of Richard during His Imprisonment; Edinburgh after Flodden; The Execution of Montrose
Burns, Robert, Lament of Mary, Queen of Scots on the Approach of Spring; The Battle of Bannockburn
Scott, Sir W., Battle of Bannockburn; The Lady of the Lake; Marmion; The Lay of the Last Minstrel
Southey, The Death of Wallace; The Battle of Blenheim
Hawker, The Song of the Western Men
Doyle, Sir Francis H., The Old Cavalier
Cowper, Wm., Boadicea
Lincoln, Jas., Simon de Montfort, Earl of Leicester
Rossetti, D. G., The King's Tragedy; The White Ship
McCrae, In Flanders' Fields
Seeger, I Have a Rendezvous with Death
Taylor, Bayard, Song of the Camp
Longfellow, The Belfry of Bruges; King Robert of Sicily
Lockhart, J. G., The Lord of Buttrago
Lowell, Robt. S., The Relief of Lucknow
Wolfe, Charles, The Burial of Sir John Moore
Kipling, The Recessional; The White Man's Burden
Campbell, Thomas, Ye Mariners of England
Lowell, J. R., Yussouf; The Vision of Sir Launfal
Montgomery, Arnold Winkelried

Tennyson, The Charge of the Light Brigade; Ode on the Death of the Duke of Wellington; Idylls of the King
Dryden, Alexander's Feast
Macaulay, Lays of Ancient Rome; The Armada; The Battle of Naseby
Halleck, Marco Bozzaris
Montgomery (Ed.), Heroic Ballads. Ginn and Company, Chicago
Clarke (Ed.), A Treasury of War Poetry. Houghton Mifflin Company, Boston
Bates and Coman, English History told by English Poets. The Macmillan Company, San Francisco
Shakespeare, Julius Caesar; Romeo and Juliet; The Merchant of Venice, and others. Any edition
Schiller, The Maid of Orleans; William Tell. Any edition

F. Biography

Adams and Foster, Heroines of Modern Progress. The Macmillan Company, San Francisco
Anthony, Katherine, Queen Elizabeth. Alfred E. Knopf Co., New York
Anthony, Katherine, Catherine the Great. Alfred E. Knopf Co., New York
Birkhead, Alice, Heroes of Modern Europe. T. Y. Crowell and Company, New York
Bolton, Famous Men of Science. T. Y. Crowell and Company, New York
Bolton, Lives of Poor Boys Who Became Famous. T. Y. Crowell and Company, New York
Bridges and Tiltman, More Heroes of Modern Adventure. Little, Brown and Company, Boston
Brower, H. M., Story-lives of Master Musicians. Frederick A. Stokes Company, New York
Cather, K., Boyhood Stories of Famous Men. The Century Company, New York
Cather, K., Girlhood Stories of Famous Women. The Century Company, New York
Clark, Barrett H., Great Short Biographies of the World. Robert McBride and Company, New York
Darrow, F., Masters of Science and Invention. Harcourt, Brace and Company, New York
De Kruif, Microbe Hunters. Harcourt, Brace and Company, New York
Drinkwater, Oliver Cromwell. Doubleday, Doran and Company, Garden City, New York
Easton, J., A Daughter of the Seine (Madame Roland). Harper and Brothers, New York
Einhard, Life of Charlemagne. American Book Company, New York
Farmer, Mrs. L., The Book of Famous Rulers. T. Y. Crowell and Company, New York
Ferris, Helen J., (ed.) When I Was A Girl. The Macmillan Company, San Francisco
Gandhi, Mahatma, His Own Story. The Macmillan Company, San Francisco
Haaren, John and Poland, A. B., Famous Men of Modern Times. American Book Company, Chicago
Haaren, John and Poland, A. B., Famous Men of the Middle Ages. American Book Company, Chicago
Hagedorn, H., The Book of Courage. John C. Winston Company, New York
Hammond, Mrs. D. B., Stories of Scientific Discovery. The Macmillan Company, San Francisco
Harrison, F., New Calendar of Great Men. The Macmillan Company, San Francisco
Holland, Historic Girlhoods. Macrae Smith Co., 1712 Ludlow Street, Philadelphia
Humphrey, G., Heroes of Liberty. Bobbs-Merrill Company, Indianapolis
Jewett, S., Saint Francis of Assisi. T. Y. Crowell and Company, New York
Ludwig, Emil, Napoleon. Little, Brown and Company, Boston
Ludwig, Emil, Bismarck. Little, Brown and Company, Boston
Laughlin, Foch, the Man. Fleming H. Revell and Company, New York
Maurois, Disraeli, A Picture of the Victorian Age. D. Appleton and Company, New York
Parkman, Heroines of Service. The Century Company, New York
Power, Boys and Girls of History. The Macmillan Company, San Francisco
Pumpelly, R., Travels and Reminiscences. Henry Holt and Company, Inc., New York
Raymond, C. H., Story Lives of Master Writers. Frederick A. Stokes and Company, New York
Sassoon, S., Memoirs of an Infantry Officer. Coward-McCann Company, New York
Strachey, Victoria, Queen of Great Britain. Harcourt, Brace and Company, New York
Vallery-Radot, Life of Pasteur. Doubleday, Doran and Company, Garden City, New York
Weston, W. R., Plutarchus. Frederick A. Stokes and Company, New York
(See the list of biographies in the revised edition of Logasa: Historical Fiction, McKinley Publishing Co.)

G. Travel

Abend, H., Tortured China. Ives Washburn, Inc., New York
Bridges and Tiltman, Heroes of Modern Adventure. Little, Brown and Company, Boston
Bryant, Mrs. L. M., The Children's Book of European Landmarks. The Century Company, New York
Carter and Mace, Tomb of Tut-ankh-Amen. Doubleday, Doran and Company, Garden City, New York
Chancellor, E. B., Pleasure Haunts of London. Houghton Mifflin Co., Boston
Chatterton, E. K., Romance of the Sea Rovers. J. B. Lippincott and Company, Chicago
Finger, C. J., Courageous Companions. Longmans, Green and Co., New York
Flandreau, C. M., Viva Mexico. D. Appleton and Company, New York
Frank, H. A., Working My Way Around the World. The Century Company, New York
Gordon and Gordon, Two Vagabonds in the Balkans. Robert M. McBride and Company, New York
Halliburton, Richard. Several titles
Hamilton, C. M., Wandering. Doubleday, Doran and Company, Garden City, New York
Hedin, S. A., My Life as an Explorer. Boni and Liveright, New York
Hindus, M. G., Humanity Uprooted. Cape and Smith, 139 E. 46th Street, New York City, N. Y.
Holland, Historic Ships. Macrae-Smith Company, Philadelpdia
Huddleston, S., France and the French. Charles Scribner's Sons, Chicago
Johnston and Finnemore, China and Japan. The Macmillan Company, San Francisco
Johnston and Guest, World of Today. (4 vols.) G. P. Putnam's Sons, New York
Lansing, M. F., Great Moments in Exploration. Doubleday, Doran and Company, Garden City, New York
Munthe, Axel, Memories and Vagaries. E. P. Dutton and Company, Inc., New York
Ossendowski, Beasts, Men and Gods. E. P. Dutton and Company, Inc., New York
Powell, E. A., Last Frontier. Charles Scribner's Sons, Chicago
Synge, M. B., Book of Discovery. G. P. Putnam's Sons, New York
Willard, T. A., City of the Sacred Well. The Century Company, New York
Wyss, J. D., The Swiss Family Robinson. Minton-Balch Company, New York
Yeats-Brown, Lives of a Bengal Lancer. Viking Press, New York

H. Teacher's references

(See also the list with the General Suggestions to Social Studies)

Wright, The Geographic Basis of European History. Henry Holt and Company, Inc., New York
Boeckel, Between War and Peace. The Macmillan Company, San Francisco
American Historical Review (Quarterly, $5.00, with membership in the American Historical Association)
Art and Archaeology (Monthly Magazine)
Modern History Journal, University of Chicago Press, Chicago
Current History (N. Y. Times)
Kelsey, R., Internationalism. McKinley Publishing Company, Philadelphia. (Excellent)
World Peace Foundation Publications, 40 Mount Vernon St., Boston,
Woman's International League Pamphlets, 1924 Chestnut St., Philadelphia
Bulletins of the Pan-American Union, Washington, D. C.
Pamphlets of the Carnegie Endowment for International Peace
Syllabi from Institute for International Education, 418 West 117 St., New York
Foreign Policy Association, 18 East 41st St., New York. Publications

I. Historical fiction—arranged chronologically

A good list of fiction is given in the Teacher's Manual to accompany McKinley, Howland and Dann's World History in the Making. Perkins, A History of European Peoples, pp. 928-32, gives a good list of historical fiction.

(See further suggestions in the General Suggestions to the Social Studies)

Time	Author	Title	Publisher
Primitive Man	London	Before Adam	The Macmillan Company, San Francisco
Primitive Man	Burr	Around the Fire	Association Press, New York

Time	Author	Title	Publisher
Primitive Man	Quennell and Quennell	Everyday Life in the Old Stone Ages	G. P. Putnam's Sons, New York
Primitive Man	Waterloo, S.	A Son of the Ages	Doubleday, Doran and Company
Cave Man Days	Waterloo, S.	The Story of Ab	Doubleday, Doran and Company
Maya Period	Malkus, Mrs. A. S.	The Dark Star of Itza	Harcourt, Brace and Co., New York
1317-1250 B. C.	Ebers, Geo. M.	Uarda The Egyptian Princess	A. L. Burt Company, Inc., New York
100-44 B. C.	Whitehead	The Standard Bearers	American Book Company, Chicago
100-44 B. C.	Davis	A Friend of Caesar	The Macmillan Company, San Francisco
58 B. C.	Wells	With Caesar's Legions	Lothrop, Lee and Shepard Company, New York
7 B. C.-41 A. D.	Wallace, Lew	Ben Hur	Harper and Brothers, New York
54 A. D.	Sienkiewicz	Quo Vadis	Little, Brown and Co., Boston
	Farrar	Darkness and Dawn	Longmans, Green and Co., New York
Several Periods	Doyle, Conan	The Last Galley	Doubleday, Doran and Co., Garden City, N. Y.
70	Melville	The Gladiators	Longmans, Green and Co., New York
79	Bulwer-Lytton	Last Days of Pompeii	Little, Brown and Co., Boston
400	Kingsley	Hypatia	The Macmillan Company, San Francisco
408-451	Church	The Count of the Saxon Shore	G. P. Putnam's Sons, New York
500	Clemens (Mark Twain)	A Connecticut Yankee in the Court of King Arthur	Harper and Brothers, New York
600	Kipling	Puck of Pook's Hill	Doubleday, Doran and Co., Garden City, N. Y.
1066	Bulwer-Lytton	Harold: The Last of the Saxon Kings	Longmans, Green and Co., New York
1100	Davis	God Wills It	The Macmillan Company, San Francisco
Middle 13th Century	Lansing, M. F.	Magic Gold	Little, Brown and Co., Boston
13th to 16th Centuries	Lansing, M. F.	Page, Esquire and Knight	Ginn and Company, New York
1275-92	Byrne, Donn	Messer Marco Polo	The Century Company, New York
1314	Porter	Scottish Chiefs	Charles Scribner's Sons, Chicago
1337-1435	Doyle, Conan	The White Company	Harper and Brothers, New York
1366-76	Begbie, Harold	The Rising Dawn	Doubleday, Doran and Co., Garden City, N. Y.
1381	Converse, Florence	Long Will	Houghton Mifflin Co., Boston
	Irving	The Alhambra	G. P. Putnam's Sons, New York
1412-31	Clemens (Mark Twain)	Personal Recollections of Joan of Arc	Harper and Brothers, New York
Middle Ages	Eliot	Romola	E. P. Dutton and Co., Inc., New York
1492	Merejkowski, D.	The Forerunner	Constable and Company London

Time	Author	Title	Publisher
15th Century	Yonge	Dove in the Eagle's Nest	The Macmillan Company, San Francisco
	Mason	Aucassin and Nicolette and other medieval romances and legends	E. P. Dutton and Co., Inc., New York
	Major	When Knighthood was in Flower	Ginn and Company, Chicago
	McCarthy	If I Were King	Harper and Brothers, New York
	Reade	Cloister and the Hearth	E. P. Dutton and Co., Inc., New York
	Wallace	Prince of India	Any edition
	Weyman	Gentleman of France	Longmans, Green and Co., New York
1530-35	Manning, Anne	Household of Sir Thomas Moore	E. P. Dutton and Co., Inc., New York
1550	Yonge	Unknown to History	The Macmillan Company, San Francisco
1560	Yonge	Chaplet of Pearls	The Macmillan Company, San Francisco
1558-1603	Bennett	Master Skylark	The Century Company, New York
16th Century	Stephens	An Enemy to the King	Doubleday, Doran and Co., Garden City, N. Y.
1600	Dumas	Three Musketeers	T. Y. Crowell and Co., New York
Early 17th Century	Cervantes	Don Quixote	E. P. Dutton and Co., Inc., New York
1640-1700	Orczy, E. (Baroness)	His Majesty's Well Beloved	Doubleday, Doran and Co., New York
	Kingsley	Westward Ho!	Charles Scribner's Sons, New York
1649-60	Barr, A. W.	Friend Olivia	Dodd, Mead and Company, New York
1633-1703	Samuel Pepys	Pepys' Diary	The Macmillan Company, San Francisco
1680's	Blackmore, R. D.	Lorna Doone	Grosset and Dunlap, New York
1685	Sabatini	Captain Blood	Houghton Mifflin Co., Boston
	Bulwer-Lytton	Last of the Barons	E. P. Dutton and Co., Inc., New York
Early 18th Century	Parker	Seats of the Mighty	D. Appleton and Company
	Martineau	Peasant and the Prince	E. P. Dutton and Co., New York
	Edgeworth	Castle Rackrent	The Macmillan Company, San Francisco
1702-14	Thackeray	Henry Esmond	Any edition
1715-74	Tarkington	Monsieur Beaucaire	Doubleday, Doran and Co., Garden City, N. Y.
1750-63	Smith, Mrs. A. P.	Montlivet	Houghton Mifflin Co., Boston
1750	Dickens	Oliver Twist	E. P. Dutton and Co., New York
1756-74	Moore, F. F.	The Jessamy Bride	International Book and Publishing Company, Scranton, Pa.
1760's-1780's	Thackeray, W. M.	The Virginians	E. P. Dutton and Co., New York
1789	Henty	No Surrender: A Tale of the Rising in La Vendee	Charles Scribner's Sons, New York
	Sabatini	Scaramouche	Houghton Mifflin Co., Boston

Time	Author	Title	Publisher
1790	Hugo, V.	Ninety-Three ; and The Hunchback of Notre Dame	Any edition
Late 18th Century	Gras, Felix	Reds of the Midi ; and The White Terror	D. Appleton and Company New York
	Sienkiewicz	With Fire and Sword	Little, Brown and Co., New York
1798-1820	Brighouse, H.	Hepplestalls	McBride, Robert M. New York
1815	Doyle, Conan	The Great Shadow	Harper and Brothers, New York
Era of 1815	Thackeray	Vanity Fair	Any edition
1805-1820	Tolstoy, Leo	War and Peace 3 vols.	E. P. Dutton and Co., New York
1831	Weyman, S. J.	Chipinge Borough	Doubleday, Doran and Co.
1815-1848	Hugo, Victor	Les Miserables	E. P. Dutton and Co., New York
	Eliot	Silas Marner	Harcourt, Brace and Co., New York
1835-56	Steele, Mrs. F. A. Webster	Marmaduke	F. A. Stokes Company, New York
	Robinson	The Maid of Mirabelle	Doubleday, Doran and Co., Garden City, N. Y.
	Bloem, Walter	The Iron Year	Lane
1871	Seawell, M. E.	The Jugglers	The Macmillan Company, San Francisco
Late 19th Century	Hope, A.	Prisoner of Zenda	Grossett and Dunlap, New York
1866-1914	Johnston, Sir Harry	The Man Who Did the Right Thing	The Macmillan Company, San Francisco
1900	Miln, Louise J.	It Happened in Peking	F. A. Stokes Company, New York
1904-5	McCall, Sidney	The Breath of the Gods	Little, Brown and Co., Boston
1912-1914	Cholmondeley, Alice	Christine	Grosset and Dunlap, New York
1900	Buchan	Green Mantle	Doubleday, Doran and Co., New York
1914-1916	Hankey, Donald	A Student in Arms	E. P. Dutton and Co., Inc., New York
1914-18	Locke	Rough Road	Grosset and Dunlap, New York
1914-18	Meynell, Wilfred	Aunt Sarah and the War	G. P. Putnam's Sons, New York
1914-18	Aldrich, Mildred	Hilltop on the Marne	Houghton Mifflin and Co., Boston
1914-17	Canfield, Dorothy	Home Fires in France The Refugee Family	Henry Holt and Co., Inc., New York
	Robinson and Wellman	Go Get 'em	Doubleday, Doran and Co., New York
1919-22	Gibbs, Sir P. H.	Little Novels of Nowadays	Doubleday, Doran and Co., New York
	Stevenson, R. L.	Black Arrow Kidnapped David Balfour	Any edition
	Scott	Waverly Novels	Any edition
	Davis, W. S.	Many titles (all good)	The Macmillan Company, San Francisco

PART FIVE

AMERICAN HISTORY AND GOVERNMENT

I. Introductory Statement

The committee preparing this course of study in American History and Government regard it as a tentative plan which they hope will be considered carefully, tried in classes, and improved upon through study and experience. There is still an evident lack of unanimity of opinion among teachers and writers on the question of what subjects should be emphasized in this course and how the materials should be presented. Since this is the case, it is hardly expected that all teachers in the state will be satisfied to accept the course in all its details. It does, however, embody many of the latest ideas of organization and presentation.

No attempt has been made to outline specific methods or procedures, although the teacher is referred to the General Suggestions to social sciences at the beginning of this section. Also, no definite provision has been made for the study of current events, but no study of history is complete which fails to show that it is a living, developing subject, and that few, if any, great questions of human welfare and progress have reached their final solution. Current events can best be studied through systematic, carefully assigned lessons as suggested in the General Suggestions to the social science courses. There is little doubt that the best results can be obtained by the use of some single magazine in the hands of the pupils. Unity of assignment and better organization of the entire subject may be obtained in this way. Wide reading in a variety of additional magazines is also advisable.

The members of the committee were unanimous in the opinion that the required instruction in American government should go hand in hand with the instruction in American History and not be organized as a separate division of the course. The fact is that the study of government enters into every unit of the course, but it receives emphasis in Unit II. Unit III and Unit VI also contain important materials for this part of the course.

The high school teacher of American History has a right to assume that pupils have acquired a general knowledge of the subject in the grades. More attention should, therefore, be given to analysis and problem-solving than to chonological narrative. The course is arranged with this idea in mind, the chronological order of unit arrangement giving way to the topical toward the end of the year's work. Since chief aims of the course are to teach pupils to select facts and to organize material, the direct following of a single textbook is not advisable. Even when additional reference material is exceedingly limited only such portions of the textbook should be used as are called for by the guidance outline.

This course of study has been prepared for the average and the superior groups of students. Suggestions for elective readings have been made in the bibliography. The lower groups may not be able to cover all the work indicated and may respond better to a more strictly chronological treatment. However, the committee is strongly opposed to making the high school course in American History and Government merely a duplication or review of that already given in the grades.

Pupils should be encouraged to read as extensively as possible in well-selected biographies, historical fiction, and well-written histories such as the Chronicles of America series. The Council for the Social Studies has published booklets containing lists of fiction and biography, and such lists may also be found in many of the workbooks and guidance outlines which have been published for the study of American history.

A great many authorities and courses of study in American History and Government were examined for the purpose of securing suggestions for a reliable time schedule for the present outline. This is a question on which there is much disagreement. The preparation the pupils have received in the grades has a bearing on the time which it is necessary to spend on Unit I. While it is not expected that the following schedule will be adhered to strictly in every case, it should be a helpful guide for the teacher in planning the year's program:

Unit I.	Europe in America	Four Weeks
Unit II.	The Making of a New Nation	Four Weeks
Unit III.	The New Nation Established	Four Weeks
Unit IV.	The Frontier Moves Westward	Six Weeks
Unit V.	Sectional Conflict and Reconstruction	Four Weeks
Unit VI.	Industrializing American Life	Four Weeks
Unit VII.	Progressive Democracy	Four Weeks
Unit VIII.	United States as a World Power and the New Internationalism	Six Weeks

II. Bibliography

A. General references for American History

(These books should be provided in duplicate copies if possible)

Bassett, Short History of the United States. The Macmillan Company, San Francisco
Bogart, Economic History of the United States. Longmans, Green and Company, New York
Cheney, Background of American History. Harper and Brothers, New York
Elson, History of the United States of America. The Macmillan Company, San Francisco
Fish, Development of American Nationality. American Book Company, Chicago
Fish, American Diplomacy. Henry Holt & Company, Inc., New York
Greene, Foundations of American Nationality. American Book Company, Chicago
Hart, Formation of the Union (1750-1829). Longmans, Green and Company, New York
Magruder, National Government and International Relations. Allyn and Bacon, San Francisco
Paxson, Recent History of the United States. Houghton Mifflin Company, Boston
Schlesinger, New Viewpoints in American History. The Macmillan Company, San Francisco
Sparks, Expansion of the American People. Scott, Foresman and Company, Chicago
Thwaites, The Colonies (1492-1750). Longmans, Green and Company, New York
Wells, Industrial History of the United States. The Macmillan Company, San Francisco
Wilson, Division and Reunion (1829-1889). Longmans, Green and Company, New York

B. Sources

Forman, Sidelights on Our Social and Economic History. The Century Company, New York
Hart, American History Told by Contemporaries (4 vols.). The Macmillan Company, San Francisco
MacDonald, Documentary Source Book of American History. The Macmillan Company, San Francisco
Muzzey, Readings in American History. Ginn and Company, Chicago
West, Source Book in American History. Allyn and Bacon, San Francisco

C. Textbooks

Beard and Beard, History of the United States: A Study in American Civilization. The Macmillan Company, San Francisco. 1929
Bourne and Benton, American History. D. C. Heath and Company, Chicago. 1925
Fish, History of America. American Book Company, Chicago. 1928
Fite, History of the United States. Henry Holt and Company, New York. 1926
Forman, Advanced American History. The Century Company, New York. 1927
Guitteau, History of the United States. Houghton Mifflin Company, Boston. 1930
Hart, New American History. American Book Company, Chicago. 1928
Muzzey, History of the American People. Ginn and Company, Chicago. 1927
West, The American People: A New History for High Schools. Allyn and Bacon, San Francisco. 1928

III. Outline of Study

Unit One—Europe in America

(to 1763)

A. Introductory survey

The discovery of America was an outgrowth of new intellectual, social, and political movements which were stirring the European peoples to action in the fourteenth and fifteenth centuries. In turn, the success of Columbus led to renewed interest in discovery, conquest, and trade. The story of the exploration and colonization of the New World is an extension of European history and cannot be thoroughly understood as an isolated development. Spain, France, and England, the three most powerful nations of Europe, hastened to make extensive claims to the new lands, and the three of them dominated the two American continents. The shifting positions of these nations in power and influence were reflected in their activities in America, and in each case the policies of the home government aided or retarded the development of its colonies.

The territory chosen by the English for colonization was in many ways suited to be the home of an energetic, independent, and self-sustaining people. Many causes led to the establishment in this territory of a series of relatively populous and compact settlements, inherently more stable and powerful than any others situated in the American continents. Living in a new environment and lacking communication with the mother country, the colonists began to develop customs, characteristics, and institutions of their own. The rapid decline of Spain's power, following her disastrous wars with Holland and England, left France and Great Britain as rivals for the possession of North America. After sixty years of intermittent warfare, England and her now important colonies emerge in 1763 completely triumphant, and Great Britain seems destined to develop an immense colonial empire in North America.

B. Aims

1. To understand the conditions in Europe which led to the discovery of America
2. To call attention to the most important geographical features of the American continents, giving special attention to the United States and the region occupied by the thirteen original colonies
3. To study the aspirations of the three great European powers and the methods used by them in securing and retaining their hold in the New World

4. To understand the different motives which led to the establishment of the English colonies and the social and racial elements included in the population
5. To trace the struggle between the French and English for supremacy, determining the most important conditions and influences which decided the contest

C. Topical outline

1. **Western Europe before 1492**
    - a. Life of the people
    - b. General awakening
        - (1) The Crusades
        - (2) The Renaissance
    - c. The trade routes to the East
        - (1) Via the Isthmus of Suez and the Red Sea
        - (2) Via Antioch and the Persian Gulf
        - (3) Via Constantinople and northern land routes
    - d. Inventions
        - (1) Printing
        - (2) Gunpowder
        - (3) Compass and astrolabe
2. **Discovery of America**
    - a. Leif Ericson
    - b. Christopher Columbus
    - c. Expansion of original discovery
        - (1) The Cabots
        - (2) Verazzano
        - (3) Magellan
3. **What the Europeans found in America**
    - a. Geographic conditions
    - b. Climatic conditions
    - c. The natives
4. **The periods of exploration**
    - a. Spanish
    - b. English
    - c. French
5. **The English colonies**
    - a. London and Plymouth Companies
    - b. Virginia
        - (1) Motives for settlement
        - (2) Social classes
        - (3) Reorganization of government
        - (4) Economic conditions
    - c. New England colonies
        - (1) Motives for settlement
        - (2) Social classes
        - (3) Government
        - (4) Religion
        - (5) Economic conditions
    - d. Middle colonies
        - (1) Motives for settlement
        - (2) Racial elements
        - (3) Government
    - e. Other southern colonies
        - (1) Motives for settlement
        - (2) Racial elements
        - (3) Government
        - (4) Social classes

6. **Colonial life**
    - a. Government
        - (1) Charter
        - (2) Proprietary
        - (3) Crown or Royal
    - b. Population
    - c. Social life
        - (1) Plantations in South
        - (2) Towns in North
    - d. Education
        - (1) Public schools in New England
        - (2) Colleges
        - (3) Books and newspapers
    - e. Religion
7. **England and France in North America**
    - a. Comparison of
        - (1) Population
        - (2) Government
        - (3) Commerce and industry
        - (4) Potential military strength
    - b. One phase of a world struggle for supremacy
    - c. Wars
        - (1) King William's War
        - (2) Queen Anne's War
        - (3) King George's War
        - (4) French and Indian War
            - (a) Albany Congress
            - (b) Results of poor leadership
            - (c) William Pitt in control of military operations
            - (d) Peace of Paris

D. Study helps and activities

1. Review the travels of Marco Polo and state significance to fifteenth century Europe.
2. Make a list of articles which were imported into western Europe from the Orient in the fifteenth century.
3. Make a list of the inventions and achievements of the Renaissance which helped pave the way for the discovery of America.
4. Trace the most direct trade route in 1490 from Lisbon to India or Cathay. Explain why the Portugese would conceive the idea of sailing around Africa. Measure the distance and estimate the possibilities for profit if costs of trading privileges over the old routes could be avoided.
5. Explain why Columbus, Verrazano, the Cabots, and other Italians made voyages of discovery under the flags of foreign nations. Why were the wealthy merchants of Genoa and Venice not interested in finding a new trade route?
6. Review the expedition of Ferdinand Magellan. Trace the course on your map and name the lands touched. To what extent is Spanish culture dominant in the Philippines and South America?
7. Read the stories about Sir Francis Drake. Describe his expeditions against the Spanish ships. What was the effect of his return to England in 1580?
8. Review the efforts to locate the "Northwest Passage." Was it ever found?
9. Why did Sir Walter Raleigh try to establish colonies in America? Locate Roanoke Island.

10. Review the story of Columbus' expedition starting August 3, 1492. Trace his journey on the map. What did he hope to accomplish in his voyages and why was he disappointed?
11. What was the significance of the defeat of the Spanish Armada in 1588? How might a different result in this battle have affected America?
12. Make a special report on the London Company, the Plymouth Company, the East India Company, or the West India Company.
13. Show how the Jamestown colony developed from a stock company to a colony.
14. Determine the main facts in the religious controversies in England under Henry VIII, Mary, and Elizabeth. Why were many Englishmen ready to leave England for religious reasons?
15. State the purposes of the Puritans in leaving England. Was their aim to establish freedom to worship? For whom?
16. Read the Plymouth Compact. What was its significance?
17. What part did the Indian play in assisting the first colonists to become established? Direct help? Methods in agriculture and frontier life? Trade?
18. Explain why so many Puritans and Separatists arrived in Massachusetts from 1629 to 1649. Why was immigration to Virginia heavy from 1649 to 1660?
19. Review the history of the different colonies and determine who were the pioneers in the matter of religious toleration.
20. What was meant by indentured servants? Try to find out what proportion of the early colonists belonged to this class.
21. Prepare a report on the geography of the Atlantic slope.
22. Make a list of the different nationalities who settled in the colonies and show the location of each.
23. Prepare a list of occupations and industries of the early colonists.
24. Prepare a list of common articles of trade in the colonies.
25. Describe the colonial school system in New England. What was the purpose of the system?
26. Prepare a report on the College of William and Mary. Make a list of notables educated there.
27. Compare the attitude of the English and the French in their social and commercial relations with the Indians.
28. Why was the territory along the St. Lawrence River a good base of operations for the French?
29. In what part of the world was war in progress at the same time the French and Indian War was being carried on in North America?
30. Review the part the colonists played in the French and Indian War.

E. Important dates and events

1453—The Turks captured Constantinople
1492—Columbus discovered the New World
1497—John and Sebastian Cabot discovered North America
1513—Balboa reached the Pacific Ocean
1519-22—Magellan circumnavigated the globe
1519-21—Cortez conquered Mexico
1524—Verrazano explored the east coast of North America
1539-43—De Soto explored southeastern United States and discovered the Mississippi river
1534—Cartier explored and named the gulf and river of St. Lawrence

1577-80—Drake circumnavigated the globe
1588—Spanish Armada was destroyed by the English
1607—The first permanent English settlement was made at Jamestown
1608—Champlain founded a French colony at Quebec
1619—The first representative assembly in America met at Jamestown
Negro slavery was introduced in Virginia
1620—Pilgrims settled at Plymouth
The Mayflower Compact was formed
1623—New Hampshire was settled at Dover and Portsmouth
New Amsterdam was settled by the Dutch
1664—New Netherland was taken by the English
1675-76—King Philip's War in New England
1676—Bacon's Rebellion in Virginia
1689-1697—King William's War
1702-1713—Queen Anne's War
1744-48—King George's War
1754—The French and Indian War begun by battle at Great Meadows
1759—Quebec captured by Wolfe
1763—Treaty of Paris
French holdings in North America eliminated

F. Names to identify

Marco Polo
Prince Henry, the Navigator
Christopher Columbus
Ferdinand Magellan
Sir Francis Drake
Sir Walter Raleigh
Henry Hudson
Samuel de Champlain
Captain John Smith
Roger Williams
Peter Stuyvesant
Marquette and Joliet
Robert La Salle
William Penn
James Oglethorpe
Marquis de Montcalm
Lord Baltimore
James Wolfe
General Braddock
John Winthrop
Chief Pontiac

G. Bibliography

1. Special references

Adams, Civilization During the Middle Ages. Charles Scribner's Sons, Chicago
Andrews, Colonial Folkways. (Chronicles of America) Yale University Press, New Haven, Connecticut
Andrews, Colonial Self-Government. (American Nation Series) Harper & Brothers, New York
Andrews, Fathers of New England. (Chronicles of America) Yale University Press, New Haven, Connecticut
Bailey, A New Approach to American History. (Students' Guide Sheets) University of Chicago Press, Chicago. 1930
Becker, Beginnings of the American People. Houghton Mifflin Company, Boston
Bolton, Spanish Borderlands. (Chronicles of America) Yale University Press, New Haven, Connecticut
Bourne, Spain in America. (American Nation Series) Harper & Brothers, New York
Brigham, Geographic Influences in American History. Ginn and Company, Chicago
Cheyney, European Background in American History. (American Nation Series) Harper & Brothers, New York
Earle, Customs and Fashions in Old New England. The Macmillan Company, San Francisco
Farrand, Basis of American History. (American Nation Series) Harper & Brothers, New York
Fiske, Discovery of America. (Two volumes) Houghton Mifflin Company, Boston
Fiske, Old Virginia and Her Neighbors. Houghton Mifflin Company, Boston
Fiske, Beginnings of New England. Houghton Mifflin Company, Boston
Huntington, The Red Man's Continent. (Chronicles of America) Yale University Press, New Haven, Connecticut

Johnston, Pioneers of the Old South. (Chronicles of America) Yale University Press, New Haven, Connecticut
Munro, Crusaders of New France. (Chronicles of America) Yale University Press, New Haven, Connecticut
Nida, Dawn of American History in Europe. The Macmillan Company, San Francisco
Parkman, Half a Century of Conflict. (Two volumes) Little, Brown & Co., Boston
Parkman, La Salle and the Discovery of the Great West, Little, Brown & Co., Boston
Parkman, Montcalm and Wolfe. (Two volumes) Little, Brown & Co., Boston
Parkman, Pontiac's Conspiracy. Little Brown & Co., Boston
Richman, Spanish Conquerers. (Chronicles of America) Yale University Press, New Haven, Connecticut
Thwaites, The Colonies. Longmans, Green & Co., New York
Thwaites, France in America. (American Nation Series) Harper & Brothers, New York
Tyler, England in America. (American Nation Series) Harper & Brothers, New York
Wood, Elizabeth Sea Dogs. (Chronicles of America) Yale University Press, New Haven, Connecticut

2. Fiction, biography and other elective reading

All of the Chronicles of America Series listed in the first section
Austin, Standish of Standish. Houghton Mifflin Company, Boston
Barr, Maid of Old New York. Dodd, Mead & Co., Inc., New York
Byrne, Messer Marco Polo. The Century Company, Chicago
Catherwood, The Story of Tonty. A. C. McClurg & Co., Chicago
Cooper, The Last of the Mohicans. The Macmillan Company, San Francisco
Dix, Soldier Rigdale. The Macmillan Company, San Francisco
Franklin's Autobiography. D. C. Heath & Company, Chicago
Hewlett, Gudrid the Fair. Dodd, Mead & Co., Inc., New York
Hough, Mississippi Bubble. Grosset & Dunlap, 1140 Broadway, New York
Johnston, 1492. Little, Brown & Co., Boston
Johnston, Croatan. Little, Brown & Co., Boston
Johnston, Prisoners of Hope. Grosset & Dunlap, 1140 Broadway, New York
Johnston, The Great Valley. Little, Brown & Co., Boston
Johnston, To Have and To Hold. Houghton Mifflin Company, Boston
Johnston, The Slave Ship. Little, Brown & Co., Boston
Johnston, The Witch. Houghton Mifflin Company, Boston
Kingsley, Westward Ho. The Macmillan Company, San Francisco
McNeil, Tonty of the Iron Hand. E. P. Dutton & Co., New York
Parker, Seats of the Mighty. D. Appleton & Co., New York
Parker, The Power and the Glory. Harper and Brothers, New York
Polo, Travels of Marco Polo. Revised from Marsden's translation and edited with an introduction by Manuel Komroff. Boni and Liveright, New York
Wallace, The Fair God. Houghton Mifflin Company, Boston

Unit Two—The Making of a New Nation

(Chiefly 1763 to 1789)

A. Introductory survey

The American Revolution was a logical development of the expanding frontier of Europe. A common language and a similarity of traditions, culture, and religion were not enough to hold a great commonwealth on this side of the Atlantic dependent politically, economically, and intellectually on a European nation whose whole outlook on national life was different from ours. If England had accepted the situation and granted America the status of self-government, which she later conceded to her other large colonies, the arrangement would have been entirely workable. However, a voluntary act of that nature by any European nation at the close of the eighteenth century would have been considered a very radical step and could have come only from inspired leadership.

After the close of the French and Indian War, a combination of circumstances aroused all the latent differences of viewpoint between the two peoples. While most Englishmen and Americans were opposed to the war, a settlement was difficult, and events rapidly brought on the conflict. Once the war was begun, a reconciliation without victory to either side was practically impossible, and American leaders were forced to advocate independence as a matter of policy aside from other considerations.

The first national government organized under the Articles of Confederation was a dismal failure. At the time this plan was drafted the best efforts of the American leaders were being exerted in winning the war and as yet the thirteen colonies had had no experince in a venture of this kind which would help to guide them.

The constitution of the United States outlined one of the best plans for a representative democracy which has ever been devised. It was written by men who were students of political science and experienced in matters of government. In theory it was correct and in practice it proved to be safe and workable. The constitution cannot be fully understood unless one also understands the conditions which existed in America at the time it was framed and some of the common political ideas which were current.

B. Aims

1. To understand how the environment of the colonists in America came to separate them from the people of England in interests, aspirations, customs, political ideas, and general habits of thought
2. To understand the evolution of the English colonial policy and the effect on the American colonies
3. To learn how the people of the colonies gradually came to believe in independence
4. To understand how the Revolutionary War was fought and won
5. To know the character of the government under the Articles of Confederation and why it failed
6. To become familiar with the conditions which led to the framing of the constitution and which influenced the character of the document itself
7. To learn the main features of the national constitution principally through a study of the original text

C. Topical outline

1. **Events leading to the Revolution**
   - a. Question of taxation
     - (1) "Immemorial" Rights of Englishmen
   - b. Royal proclamation of 1763
   - c. Expansion of colonies westward
   - d. Growth of colonial unity
     - (1) Albany Plan of Union, 1754
     - (2) First Continental Congress, 1774
   - e. The mercantile system
   - f. Acts of Trade
     - (1) Revived by Grenville
     - (2) Writs of Assistance
   - g. The Stamp Act
     - (1) Opposition of Virginia and Massachusetts
     - (2) Stamp Act Congress
   - h. Townsend Acts
     - (1) Formal protests of colonies
     - (2) Boston Massacre
     - (3) Tea parties
   - i. "Intolerable Acts"
   - j. The First Continental Congress

- k. Armed conflicts
  - (1) Lexington and Concord
  - (2) Capture of Ticonderoga
  - (3) Battle of Bunker Hill
- l. Second Continental Congress
- m. Thomas Paine's "Common Sense"
- n. The Declaration of Independence

2. The War for Independence

- a. The leadership of Washington
  - (1) His work in organizing and maintaining an army
  - (2) His military strategy
  - (3) His choice of leaders
- b. Difficulties of the British
  - (1) Extent of territory embraced in the colonies
  - (2) Communication and transportation
  - (3) Conflict of opinion at home
  - (4) Use of German troops
- c. Significance of foreign aid
  - (1) French money, fleets, and armies
  - (2) Personal contributions of Steuben, Kosciusko, Lafayette, and others
- d. Specific phases of the conflict
  - (1) Campaigns of Washington
  - (2) Surrender of Burgoyne, the turning point of the war
    - (a) Effect on America
    - (b) Effect on England
    - (c) Effect on France
  - (3) Campaigns in the South
  - (4) Campaign in the West
  - (5) War on the sea

3. Formation of the Union

- a. Articles of Confederation
  - (1) No executive head
  - (2) No power of taxation or of the regulation of commerce
  - (3) No power to enforce laws
  - (4) No possibility of amending the Articles
- b. Threats of anarchy
  - (1) Attempts of federal government to raise revenue
  - (2) Shay's Rebellion
  - (3) Foreign relations
- c. Ordinance of 1787
- d. Constitutional Convention
  - (1) Virginia and New Jersey plans
  - (2) Compromises
- e. The Constitution
  - (1) Strong central government
  - (2) Separation of powers
  - (3) Checks and balances
  - (4) Implied powers
  - (5) Amendments
- f. Adoption of the constitution
  - (1) The Federalist
  - (2) Contests in
    - (a) Massachusetts
    - (b) Virginia
    - (c) New York

D. Exercises and activities

1. Determine important viewpoints the colonists had developed through their experiences in America which contributed to the Revolution.
2. Determine in what different ways England contributed to the building up of the spirit of independence previous to 1760.
3. Be able to explain and give illustrations to show why the colonists opposed the mercantilist policy of England
4. Explain clearly in each case the colonial opposition to the Grenville Acts, The Townshend Acts, and the Intolerable Acts.
5. Review the reply or attitude of Lord North to the various expressions on the part of the colonists.
6. Determine the reasons why many of the English leaders supported the colonial cause.
7. Explain how the war which was begun as a protest against certain policies of the British government became a war for independence.
8. From a study of the Declaration of Independence find what reasons the Americans gave for the Revolution.
9. Prepare a chronological table of the work of the Second Continental Congress.
10. Make a list of leading men on the American side in the Revolution, arrange them in order of importance, and give the most important contributions of each.
11. Prepare a rather detailed account of one important battle in the Revolutionary War.
12. Explain the expression, "Go to Halifax." Find the approximate number of loyalists who left the country.
13. Trace the part which the Hessians played in the Revolutionary War. What estimate can you find of the number that remained in this country?
14. Give an account of the expedition of George Rogers Clark and explain its importance.
15. Make a list of the most important problems which faced the new government after peace was proclaimed in 1783.
16. Study the Ordinance of 1787 and show the importance of its provisions.
17. Determine why the Annapolis Convention requested congress to call a meeting of delegates to make the Constitution adequate to the needs of the Union.
18. Find where the Philadelphia convention got its ideas which were incorporated in the federal constitution.
19. Explain the compromises of the Constitutional Convention.
20. From a study of the constitution make a list of the checks and balances provided.
21. Make a list of specific applications of "implied powers" of the constitution.
22. Explain the origin of that part of the constitution known as the "Bill of Rights."
23. Make a list of the leading men who opposed the constitution and give their principal arguments.
24. Make a list of the men who deserve special credit for securing the adoption of the constitution and explain the contribution of each one.
25. Prepare a story of the adoption of the constitution in one important state.

E. Important dates and events

1763—King George issued a proclamation reserving the western lands for the Indians
1765—Parliament passed the Stamp Act
1770—British troops clashed with the populace in Boston—incident known as the Boston Massacre
1773—Americans disguised as Indians threw a shipload of tea into Boston harbor—incident known as Boston Tea Party
1774—The First Continental Congress met in Philadelphia
1775—April 19, British soldiers marched to Lexington and Concord and were driven back to Boston by New England militia
1776—July 4, Congress adopted the Declaration of Independence
1777—October 17, Burgoyne surrendered at Saratoga
1778—George Rogers Clark conquered the Northwest Territory
1781—October 19, Cornwallis surrendered to Washington
1781—Maryland ratified the Articles of Confederation and they went into effect
1783—September 3, the treaty of peace with Great Britain was signed at Paris
1787—Congress passed the Ordinance of 1787
Constitutional Convention met in Philadelphia

F. Names to identify

George Washington
Benjamin Franklin
John Adams
Thomas Jefferson
Samuel Adams
John Paul Jones
Robert Morris
William Pitt
Thomas Paine
James Madison
Richard Henry Lee
Alexander Hamilton
Patrick Henry
Edmund Burke
Lord North
Marquis de Lafayette
Baron Steuben
John Burgoyne

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Cooper, The Pilot. G. P. Putnam's Sons, New York
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Hosmer, Samuel Adams. Houghton Mifflin Company, Boston
Laut, Pathfinders of the West. The Macmillan Company, San Francisco
Mitchell, Hugh Wynne. The Century Company, Chicago
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Unit Three—The New Nation Established

(Chiefly 1789 to 1816)

A. Introductory survey

The United States over which Washington was chosen to preside in 1789 was far from being a nation. Many difficulties had to be overcome before the nation could really be considered established. Respect had to be secured both at home and abroad. The French Revolution and the general European wars which followed divided American sympathies and interests for many years.

Soon after the new government was launched a difference of opinion developed over the real nature of the federal constitution and the extent of the authority of the government under it. The ideas of the opposing sides on this question formed the bases for the organization of the first two political parties. The experiences leading to the War of 1812 and the lessons learned in that contest apparently led to a modification of extreme views on both sides and the actual disappearance of the Federalists as a party. In fact it was not until the nation was aroused by the War of 1812 and bound together by new means of communication and common interests that a real spirit of nationalism arose. This new spirit found expression in the Monroe Doctrine and the new nation seemed then to be established.

B. Aims

1. To trace the beginnings of the development of a national consciousness

2. To discover the beginnings of our political parties and observe their policies in theory and practice
3. To appreciate the financial, administrative, and international difficulties of the new nation
4. To note the beginnings of the industrial revolution in America, its causes and immediate effects
5. To understand the importance of the Monroe Doctrine, then and now

C. Topical outline

1. **The new government under the Federalists**
    a. Organizing the new government
    b. Putting the government on a sound financial basis
    c. Establishing a foreign policy
        (1) The Jay Treaty
        (2) Treaty with Spain
        (3) Washington's Proclamation of Neutrality
    d. The Whiskey Rebellion—vindication of national authority
    e. Rise of political parties

2. **Jefferson's followers in power**
    a. The nature of "Jeffersonian Democracy"
    b. Jefferson's policies in action
        (1) The civil service
        (2) Financial policy
        (3) Louisiana Purchase (Leave detailed consideration for next unit)
    c. Foreign affairs
        (1) Neutral trade
        (2) English and French aggressions
        (3) Embargo and Non-Intercourse Acts
        (4) Declaration of war

3. **War of 1812**
    a. Indian wars in the west
    b. The cost of unpreparedness
    c. Progress of the war
        (1) On the sea
        (2) On the lakes
        (3) Futile attempts to invade Canada
        (4) Repulse of the British invasions
    d. The Hartford Convention

4. **The rising spirit of nationalism**
    a. Economic prosperity following the War of 1812
        (1) Commercial freedom secured
        (2) Beginning of the industrial revolution in the United States
        (3) Opening of the western territory (Leave detailed consideration for next unit)
    b. Fusion of Federalist and Republican policies
        (1) Protective tariff of 1816
        (2) Rechartering of the National Bank
        (3) Henry Clay's "American System"
        (4) John Marshall's Supreme Court decisions
    c. Foreign policy
        (1) Relations with Latin American republics
        (2) The Monroe Doctrine
            (a) Original object
            (b) Later interpretations

D. Exercises and activities

1. Explain: (a) Refunding the national debt, (b) refunding the State debts, (c) refunding the debts of the Confederacy.
2. Prepare a statement showing why Hamilton wanted a national bank. Explain the plan for the First National Bank (1791-1811.) Was it a success?
3. Why had England held Detroit, Mackinaw, and other frontier posts since 1783?
4. Study and report on the Jay Treaty of 1794. How did this treaty affect France? How did it affect us? How did it affect Spain?
5. Read Fisher Ames' speech of 1796 on the appropriation bill to put the Jay treaty into effect. That was one of the critical dramatic moments in the history of our country. Why?
6. What events caused Washington to issue the Proclamation of Neutrality in 1793?
7. Review Hamilton's **Report on Manufactures** to determine his position on the tariff question.
8. Explain how it came about that we had a President and Vice President from different parties. How could the Federalists have elected John Adams for the second term? Why did Burr hold a grievance against Hamilton over the presidential election?
9. Compare our government of the two-party system with the European governments which have several major parties.
10. Explain "once an Englishman always an Englishman." On what grounds did the British claim the right to stop neutral vessels and impress Englishmen on board even though they had become naturalized?
11. Review Washington's Farewell Address. What do you think is the keynote of the address? What did Washington say should be our guiding principle in foreign policy?
12. Outline Jefferson's financial policy. Give the results, good and bad.
13. Contrast Washington's and Jefferson's method of averting war.
14. What would have been the most logical course of action in 1812, to fight France or to fight England?
15. Why did the west favor the war? What did they gain from it?
16. What was the purpose of the Hartford Convention? How do you account for the opposition of New England to the war?
17. Make a list of efficient military leaders developed in the War of 1812. How many of these held important commands at the beginning of the war?
18. Do you think our experience in the War of 1812 proves that we should have a strong navy? What other arguments can be advanced?
19. Explain how the embargo and the War of 1812-14 discouraged American shipbuilding and encouraged manufacturing.
20. Review the life of Eli Whitney. Show how his invention in 1793 revolutionized the cotton industry and revived the slave problem.
21. Describe the inventions of Samuel Slater and Francis Lowell.
22. Make a list of important manufactures which were produced in the United States by 1815.
23. What was the original Monroe Doctrine? How was it announced to the world? Prepare a story stating all the facts relating to the purpose of this declaration.
24. Make a list of important events in history in which the Monroe Doctrine was involved.
25. What was Henry Clay's "American System"? To what extent and how long did the federal government follow it?

E. Important dates and events

1789—First government under the constitution organized
1791—First Bank of the United States established
1793—Eli Whitney invented the cotton gin
1795—Treaties with England and Spain concluded
1801—John Marshall appointed chief justice
1803—Louisiana purchased from Napoleon
1804-06—Lewis and Clark explored the Northwest
1807—Robert Fulton's steamboat ran from New York to Albany
1808—Importation of slaves ended under a law of Congress
1811—Harrison defeated the Indians at Tippecanoe
1812-14—War with England
1816—The second Bank of the United States was chartered
1819—Florida was purchased from Spain
1823—The Monroe Doctrine was announced in the President's Message to Congress

F. Names to identify

Eli Whitney
John Jay
Albert Gallatin
Robert Fulton
James Monroe
Aaron Burr
William Clark
Oliver Perry
Charles Pinckney
Edmund Randolph
John Marshall
Samuel Chase
Meriwether Lewis

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Unit Four—The Frontier Moves Westward

(Chiefly 1815 to 1860)

A. Introductory survey

The years following the War of 1812 saw the main barriers to the occupation of the West removed and great armies of settlers making their way to the new lands. Six new states from this section were admitted to the union by 1821. Class distinctions had been automatically swept away among the settlers of the West and a new spirit of democracy arose. Andrew Jackson led the democratic revolution which spread to all parts of the United States and gave a new tone to American political life. "The frontier with its continuous influence," says Paxson, "is the most American thing in all America." Such problems as the tariff, banking and currency, internal improvements, and division of powers between state and national governments became acute during this period. Many of these problems are still a matter of grave concern to statesmen of today. The foundations of many of our important social and educational institutions were laid at this time. The battle for the free public school was fought and won; the movements for temperance and womens' rights had their beginnings. The introduction of machinery applied to transportation, communication, farming, and industry made rapid progress.

The acquisition of the different parcels of new territory on the North American continent makes a fascinating story and was fundamental in establishing the United States as a great nation. This story can be conveniently covered in this unit.

As far as possible the question of slavery should be reserved for the next unit.

B. Aims

1. To know the story of the advance of the frontier to the Pacific coast and to note its influence on the government and character of the American people
2. To understand the circumstances under which the United States acquired the different additions of territory from 1803 to 1853
3. To trace the steps taken in the change from the rather aristocratic republic of the early United States to that of the Pre-Civil War Period

4. To understand the most important domestic problems (except slavery, see Unit Five) which arose during this period
5. To learn the most important developments in social and industrial progress for this period

C. Topical outline

1. **The Westward movement**
    a. Barriers to occupation of the West removed in War of 1812
    b. New methods of travel and transportation introduced and new routes established
        (1) Roads
        (2) Canals
        (3) Railroads
        (4) Steamships
    c. Waves of immigration
        (1) In years immediately following the French and Indian War
        (2) Renewed at the close of the Revolutionary War
        (3) 1816 to 1821
        (4) 1835 to 1848
    d. Extent of the westward movement
    e. Effect of the westward movement
        (1) Cosmopolitan population
        (2) Physical environment
        (3) Occupations
2. **Territorial expansion**
    a. Louisiana Purchase, 1803
    b. Acquisition of Florida, 1819
    c. Annexation of Texas, 1845
    d. Settlement of the Oregon boundary, 1846
    e. Purchase of California and adjoining territory from Mexico, 1848
    f. Gadsden Purchase, 1853
    g. Alaska Purchase, 1867
3. **Jacksonian Democracy**
    a. Review
        (1) Colonial democracy, a combination of property owners and church members
        (2) Early national democracy of the United States, a democracy of taxpayers
    b. Free manhood democracy of this period
        (1) Selection of presidential electors by popular vote
        (2) Nomination by convention
        (3) Introduction of the "spoils system"
    c. Demands of the West for national legislation
4. **Domestic problems**
    a. Internal improvements
    b. Tariff
    c. The Second National Bank
    d. State Rights
5. **Social and industrial progress**
    a. Establishment of a tax-supported school system
    b. Care of unfortunate and handicapped members of society
    c. Temperance movement
    d. Campaign for women's rights
    e. Beginning of labor organizations
    f. Important inventions, including the cotton gin, railroads, steamships, telegraph, reaper, matches, stove, sewing machine, rotary printing press, and the process for vulcanizing rubber, Bessemer converter
    g. Growth of manufactures

D. Exercises

1. Canvass your class to determine the history of each family represented. How many grandparents or great-grandparents came from New England? Middle Atlantic States? Other sections?
2. Trace on a map the main routes of travel into the West. Show the new states admitted during this period and give the date of admission for each.
3. Explain the three or four waves of migration to the West from the close of the French and Indian War to the end of this period.
4. Explain the policy of the government in regard to the western domain. Did this policy further the westward migration?
5. Contrast the life in the West with life in New England; in Virginia.
6. Make a list of personal characteristics which life in the West developed and name different men who typified these qualities.
7. Review the story of the Aaron Burr conspiracy in 1805. Show how this illustrates an interest and confidence in the future of the West.
8. Prepare a summary of conditions in 1830 relative to: Transportation; trade; population; number of states; character of settlers; other data concerning the West of that period.
9. Give a possible explanation of Napoleon's willingness to sell Louisiana. If we had not acquired Louisiana in this way what might have been the result?
10. Prepare an account of the Lewis and Clark expedition, 1804 to 1806.
11. Give the story of the negotiations and difficulties encountered in the acquisition of Florida.
12. Describe a number of expeditions to the West ending with Fremont's in 1842. What was the explanation of our interest in the West?
13. Describe the treaty with Great Britain in 1846 which gave us the Oregon territory.
14. Why did we go to war with Mexico in 1846? Why did we not absorb the entire Mexican nation?
15. Compare the conditions in Texas, New Mexico, California, and other territory acquired, with those in Old Mexico today. Should we regret our conquests?
16. Give an account of "Seward's Folly" in 1867. Prepare a summary of the most important resources of Alaska.
17. What proportion of the male citizens enjoyed the right of suffrage when Washington was president? What were the voting qualifications?
18. Who was eligible to vote after Jacksonian democracy had won the country?
19. Study the life of Andrew Jackson. Give a word picture of the man as "Old Hickory", the popular hero; as president of the United States.
20. Explain the changes in the machinery of practical politics which came about in this period.
21. What factors contributed to the reaction against Nationalism? Explain the complete change in political views shown by prominent leaders between 1816 and 1830.
22. What was Jackson's answer to Nullification by South Carolina? Explain the importance of his action as a solution of the existing situation; as a precedent for the national government.

23. Study the Webster-Hayne debate. Why did the States Rights controversy arise in 1830? What were the arguments of each man?
24. Review the story of the Second National Bank. State Jackson's arguments against this bank. Why did he veto the bill to recharter the bank in 1832?
25. Explain why Jackson moved the Indians to reservations over the decision of the Supreme Court of 1832. Compare this act with that of going into Spanish territory in 1819. Was he willful, ignorant, or certain of his constitutional powers?
26. The new democracy demanded free public schools from the beginning to the end of the college course. Justify the public support of such a program.
27. Review the life of Horace Mann. What were his most important contributions to our educational philosophy and practice?
28. Make a list of reform movements begun in this period and identify important leaders with the reforms.

E. Important dates and events

1803—Louisiana purchased from Napoleon
1819—Florida purchased from Spain
1828—Baltimore and Ohio Railroad began to operate
1825—Erie Canal was opened
1832—South Carolina attempted to nullify the tariff
1836—Texas won her independence
1837—A great financial panic and period of business depression
1844—Morse invented the telegraph
1845—Texas was admitted to the union
1846—War was declared on Mexico. Treaty signed with Great Britain adjusting Oregon boundary
1848—Treaty of peace was signed with Mexico
1849—Large numbers of gold seekers went to California
1853—Gadsden purchase

F. Names to identify

Daniel Webster
Henry Clay
John C. Calhoun
John Quincy Adams
Andrew Jackson
Horace Mann
Sam Houston
Winfield Scott
Samuel F. B. Morse
Cyrus McCormick
Marcus Whitman
John C. Fremont
Elizabeth Cady Stanton
Susan B. Anthony
Frances Willard

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Unit Five—Sectional Conflict and Reconstruction

(Chiefly 1850 to 1877)

A. Introductory survey

The beginning of slavery in the United States dates back to 1619, when the first boatload of negroes was sold at Jamestown. In colonial days slaves were not confined to the South but were to be found scattered over all the colonies. They were never profitable in the North and by the time of the Revolution they had practically disappeared from that section. Furthermore, there were many indications in 1790 that slavery would soon die out and be abolished in all the states. The invention of the cotton gin in 1791 stimulated the demand for slave labor and caused the southern leaders to take a new interest in protecting the institution. The Missouri Compromise marked the first great political contest over this question, and after 1830, slavery became a moral issue in the North. The sectional feeling continued to grow, bringing threats from the South of exercising what they termed their right of secession. The political contest centered around the admission of slavery into new territory and all efforts at compromise finally failed.

The immediate results of the Civil War are well-known; the problem of reconstruction is not so easy to understand. President Lincoln had outlined a plan for reconstruction before his death which his successor Johnson tried, in the main, to carry out. Congress had other ideas, and was to gain the necessary political support to put them in operation. As time went on public opinion on the question of reconstruction gradually changed, federal interference was withdrawn, and the solution was ultimately left to the southern people.

B. Aims

1. To understand the causes of the Civil War
2. To cultivate an unprejudiced attitude in the consideration of personalities and problems connected with the Civil War and Reconstruction
3. To appreciate the difficulties of the Reconstruction period
4. To understand the social, industrial and political effects of the war

C. Topical outline

1. **Review**
    - a. The introduction of slavery into America
    - b. Slavery in the constitution
    - c. The Northwest Ordinance
    - d. Balance of power in the Senate
        - (1) The Missouri Compromise
    - e. The relation of slavery to the acquisition of new territory
        - (1) The annexation of Texas
        - (2) The annexation of California and New Mexico
        - (3) The Oregon question settled
    - f. The Abolitionists
        - (1) William Lloyd Garrison
        - (2) Wendell Phillips
        - (3) John Quincy Adams

2. **Important events leading to war**
    - a. Compromise of 1850
    - b. The Kansas-Nebraska Bill
    - c. Civil war in Kansas
    - d. Dred Scott decision
    - e. Lincoln-Douglas debates
    - f. John Brown's raid
    - g. Election of 1860

3. **Secession and Civil War**
    - a. Secession
    - b. Attempts at conciliation
    - c. Civil war
        - (1) Attack on Fort Sumter
        - (2) Contest for the border states

- (3) Southern resources and plan of campaign
  - (a) Defensive campaigns
  - (b) Lee's invasions of the North
  - (c) The Merrimac attempts to break the blockade
- (4) Northern resources and plan of campaign
  - (a) Blockade of the South
  - (b) Campaign to open the Mississippi
  - (c) Emancipation Proclamation
  - (d) Grant's campaign in Virginia
  - (e) Sherman's campaign in the southeast
- (5) Costs and losses of the war

4. **International problems raised by the war**
   - a. The Trent affair
   - b. Relations with Russia
   - c. Confederate warships built in England
   - d. The French in Mexico
5. **Results of the war**
   - a. The Sanitary Commission
   - b. The Christian Commission
   - c. The American Red Cross
   - d. The new National Banking system
   - e. Greenback currency
   - f. Social and political conditions

6. **Reconstruction**
   - a. The President's plan
   - b. The Congressional plan
     - (1) The Civil Rights Bill
     - (2) The Fourteenth Amendment
     - (3) The Reconstruction Act of 1867
   - c. President Johnson and Congress
   - d. Congressional reconstruction in operation
     - (1) The Carpetbaggers
     - (2) The Ku Klux Klan
   - e. Home rule established in the South, 1877

7. **Handicaps to Southern recovery**
   - a. Poverty
   - b. Loss of man power
   - c. Heavy taxation
   - d. Loss of prestige and morale
   - e. Lack of schools
   - f. Political corruption

D. Exercises

1. Compare the attitude of Washington and Jefferson toward slavery with that shown by Calhoun and other southern statesmen of his time.
2. Review the story of the Missouri Compromise of 1820. What were the terms of the compromise?
3. Study and analyze the Compromise of 1850 (the Omnibus Bill). How did it postpone the Civil War?
4. Study the Kansas-Nebraska Bill. Contrast it with the Missouri Compromise. Why did Douglas introduce it in 1854?
5. Explain the Dred Scott decision of 1857. What constitutional question did it involve? In what way did Judge Taney's decision exceed the necessities of the case?
6. Study the Lincoln-Douglas debates. Explain how Lincoln eliminated Douglas from the presidency and lost his own election to the Senate.

7. Who were: (a) the Know-Nothing party? (b) the Anti-Nebraska Democrats, and (c) the New Republicans? Why was there a coalition sentiment among these three rings in 1854?
8. Study the life of John Brown. What was his purpose in life? Do you think he understood the negro slave and his condition? Did he choose a practical method of accomplishing his purpose? What made his case significant?
9. Describe the efforts of Senator Crittenden of Kentucky to effect a compromise between Northern and Southern leaders.
10. Would the beginning of the Civil War have been different if our constitution had provided that the president and the new congressmen would take office soon after election? Explain.
11. What was done at the Confederate convention at Montgomery, Alabama, in February, 1861? How did the Confederate constitution compare with the Articles of Confederation? With the Federal constitution?
12. Compare the North and South in population and resources. What percentage of the southern whites were slave holders?
13. Give the main points in Lincoln's inaugural address of March 4, 1861.
14. Where is Fort Sumter? Why did the South strike the first blow at Fort Sumter? The firing on Fort Sumter had what effect on the North; on the South?
15. Why did Lincoln order the blockade of the Southern ports within a week after the Confederates had fired on Fort Sumter?
16. Explain the military advantage of gaining control of the Mississippi.
17. Explain the failure of McClellan's attempt to capture Richmond.
18. Give an account of Lee's great invasion of the North. What was his purpose? The result?
19. Why was General Grant placed in command of all the union armies? Under his command what two great union armies carried the war to the Confederates? What was the objective of each?
20. Describe the battle between the Monitor and the Merrimac. What was the significance of this conflict?
21. Give some reasons why England and France sympathized with the South. Why was Russia friendly to the North?
22. When was the Emancipation Proclamation issued? What was the effect on the North? On the South? On the people of England?
23. Explain the following terms: Pacifists, Copperheads, Rich slackers, a rich man's war and a poor man's fight, northwest conspirators, carpetbaggers.
24. Explain just how President Johnson proceeded in his effort to restore the southern states to the Union. Why did his plan fail?
25. Prepare a chronological outline of the steps taken by Congress in its reconstruction of the South. Do you approve of all the steps taken? Give reasons.
26. In what respects were the negroes unprepared for intelligent participation in politics? Why did Stevens insist upon their being given the vote? Why was the South kept under military supervision?
27. What were General Grant's qualifications for the presidency? His limitations? Why was his administration marked by corruption and inefficiency?
28. How did the National Banks of 1863 differ from the early United States Banks? What were greenbacks? Explain why governments often issue paper money during a war.

29. Prepare a summary of facts showing the disastrous results of the war to the South. Explain what is meant by the "New South".
30. Explain why the South has been solidly democratic until recent years. What is the political situation in the South at present?

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Unit Six—Industrializing American Life

A. Introductory survey

To understand present-day America one must first of all understand her industrial system. A course in American history would be altogether incomplete which did not include the story of how this country changed from thirteen sparsely populated colonies, in which ninety per cent of the people were engaged in agriculture, to a country with a population of one hundred and twenty million and the most highly developed industrial organization the world has ever seen. The beginning of the industrial revolution in this country and some of its early stages have been noted in the preceding units, but it would be helpful to review these events at this time. The most surprising development in manufacturing and big business organization has occurred in this country since 1880. In fact, this period has been spoken of as the "American phase" of the industrial revolution. The American people have shown not only remarkable ingenuity in devising new machines but an equal ability in putting them to practical use.

This revolution in industrial methods has called into being a new social order. We are fast becoming a nation of city dwellers. Women are no longer confined to the home but participate freely in industrial and public life. Shorter working hours are the rule and, for most people, a higher standard of living has been reached. Mass education is one of the necessary foundations of the industrial system and has been growing and changing in character rapidly. As might be expected in a new social order and in one which is still changing rapidly, there is, in many ways, a noticeable lack of stability.

Politically and economically, public interest has shifted. Problems of religious liberty, personal liberty, slavery and rights of suffrage have given way to such questions as taxation, tariff, unemployment, distribution of wealth, regulation of large business units, adjustment of differences between capital and labor, stabilization of agriculture, and control of foreign markets.

B. Aims

1. To give the pupils a mental picture of the industrial development of the United States
2. To develop an appreciation of the changes which the industrial development has made in the conditions of living
3. To show the relation of some of the principal problems of current life to the industrial growth from which they have sprung
4. To develop the power to think in terms of industrial conditions

C. Topical outline

1. **Review**
    - a. Industrial Revolution in England
        - (1) Basic inventions: Spinning jenny, power loom and steam engine
        - (2) Social changes arising in England from Industrial Revolution
    - b. Industrial Revolution in America
        - (1) The French Revolution and Napoleonic wars
        - (2) The Embargo Act; the Non-Intercourse Act
        - (3) The War of 1812
        - (4) Important inventions and processes used in America prior to the Civil War (See Unit IV)
        - (5) Typical business organizations: one-man proprietorship; partnerships

2. **Advance in manufacturing**
    - a. Effect of the Civil War on manufacturing
    - b. A few important inventions which have helped to develop American industries since the Civil War
        - Open-hearth steel process
        - Gas engine
        - Electric motor
        - Electric light
        - Automobile
        - Airplane
        - Telephone
        - Typewriter
        - Linotype
        - Phonograph
        - Moving Picture
        - Turbine Engine
        - Radio
    - c. Quantity production
        - (1) Standardization of parts
        - (2) Increased division of labor
        - (3) Increased application of machinery
        - (4) Refinement of processes
    - d. Leading manufacturing industries
        - (1) Slaughtering and meat packing
        - (2) Milling
        - (3) Iron and steel
        - (4) Foundry and machine shop products
        - (5) Lumber and timber products
        - (6) Automobiles
        - (7) Moving pictures
        - (8) Textiles
        - (9) Boots and shoes
        - (10) Printing and publishing
    - e. Other industries to which new methods have been applied
        - (1) Agriculture
        - (2) Mining
        - (3) Building
    - f. Improvements in transportation

3. **Growth of business organizations since the Civil War**
    - a. Opportunity for consolidation following the panic of 1873
    - b. Early organization of large business units in important industries and public service facilities
        - (1) Railroads
        - (2) Oil
        - (3) Sugar
        - (4) Steel
        - (5) Coal
    - c. Tendency toward consolidation since the World War
4. **Growth of labor unions**
    - a. Rapid growth of trade unions dating from Civil War period
    - b. Knights of Labor
    - c. American Federation of Labor
5. **Important changes in living conditions resulting from industrialization**
    - a. Higher standard of living
    - b. Emancipation of women
    - c. Concentration of population
    - d. Mass education
    - e. New means of disseminating information
6. **Some problems arising directly from industrialization**
    - a. Financial crises and hard times
    - b. Unemployment
    - c. Industrial warfare
    - d. Governmental regulation of industrial corporations (See Unit IV)
    - e. Tariff
    - f. Conservation
    - g. Immigration

D. Exercises

1. Give a brief account of the inventions upon which the English industrial revolution was based.
2. Briefly summarize American progress in industry from 1776 to 1815.
3. Summarize our industrial progress from 1816 to the Civil War.
4. Briefly describe labor conditions from 1816 to the Civil War.
5. Describe the typical business firm of the pre-Civil War period.
6. Give the story of each of the inventions given under Section 2 of the topical outline.
7. What transcontinental railroads were built soon after the Civil War? What effect did they have on the settlement of the West?
8. Explain the advantages of a minute division of labor in a large factory.
9. Explain the advantages of standardization in industry.
10. Be prepared to discuss the further economies which can be effected by large scale production.
11. Review the story of the development of railroad transportation in the United States.
12. Give an account of the origin and development of one of the large industrial corporations, such as
    - The Standard Oil Company
    - The U. S. Steel Corporation
    - The Ford Motor Company
    - General Motors
    - General Electric Company

13. Make a report on the life of Thomas A. Edison, summarizing his contributions to the industrial life of this country.
14. Study the life of Henry Ford and discuss his ideas of how modern industry should be carried on.
15. Make a list of articles shipped into your community and another list of articles or products shipped out.
16. Compare typical home life of today with that of the pre-Civil War period.
17. Discuss the effect of the World War on the emancipation of women.
18. Trace the effects of our industrial changes upon education in the United States.
19. Prepare statistics showing the drift of population to the cities in the United States since 1800.
20. Make a study of two or three of the great strikes occurring in the following years: 1877, 1886, 1893, 1902, 1916, 1919, 1922. Show how such strikes can become a very serious public concern.
21. Explain the effect upon labor of the following legislative acts:
    - Clayton Act
    - Adamson Act
    - Newlands Act
    - Furuseth Act
    - Transportation Act of 1920
22. What has been the attitude of the courts in disputes between capital and labor? Why have the labor unions been hostile to the courts?
23. Out of what conditions did the "Coxey's army" movement originate? What was the purpose of this movement? What success did it have?
24. Make a special study of some of the business depressions which are usually associated with the following years: 1873, 1884, 1893, 1921, 1930. Give special attention to (1) causes (2) extent (3) results (4) recovery.
25. What remedies were suggested to relieve unemployment which developed in 1930 and 1931?
26. What natural resources has the United States government attempted to conserve? Give an account of the accomplishments in conservation in the Roosevelt administration.
27. Give a report on government reclamation projects in operation. Give a report on the Boulder Dam project.

E. Important dates and events

1869—The first transcontinental railroad was completed
1873—A serious financial panic occurred in the United States
1876—The telephone was first publicly shown at the Centennial exhibition
1877—A large number of railway employees went on a strike as a protest against wage cuts
1879—Edison invented the incandescent electric light
1882—Standard Oil Trust was organized
1893—A serious business depression began in the United States
1894—Haynes built the first successful American automobile
1902—President Roosevelt intervened in the coal strike
1903—Wilbur Wright made the first successful flight in an airplane.
1916—Adamson Act passed limiting the hours of labor on interstate railroads
1921—Congress passed a law restricting all immigration
1922—Coal miners and railroad employees strike to maintain wage scales

F. Names to identify

Thomas A. Edison
Alexander G. Bell
Wilbur and Orville Wright
Andrew Carnegie
James J. Hill
Samuel A. Gompers
Luther Burbank
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Unit Seven—Progressive Democracy

A. Introductory survey

Since the Civil War many new problems have arisen in American political life largely as a result of the industrial revolution. The new group consciousness accompanying the industrial change led many to believe that the first step toward industrial freedom was the restoration of self-government to the people. The result has been the rise of new political parties whose issues have become persistent enough to force their way eventually into concrete legislative acts, bringing greater possibilities of control both in state and nation into the hands of the people themselves. There has been a steadily increasing use of implied powers by the government as new boards and commissions have been created by it to watch over the interests of the people. Many problems of this new democracy are still unsolved or are live issues in present-day politics. The rapid development of the West and the appearance of the New South are also factors which have been responsible for a decided change in political interests and objectives. The dominant economic interests of the West are still agriculture and stock raising. This section has also generally supported reform movements of all kinds more zealously than the older sections of the country. Is the frontier still leading the way in political and social progress?

B. Aims

1. To trace the development of democracy in the United States in recent years
2. To show the conflicts arising between groups and sections over the tariff
3. To show how the federal government is extending its powers as a result of changing industrial conditions for the purpose of aiding or protecting the interests of the people
4. To show how Third Parties influence legislation
5. To understand some of the new methods of direct legislation and control which have developed in state and national affairs as part of the reform movement in the new democracy

C. Topical outline

1. **Early reform movements following the Civil War**
    a. The Liberal Republicans: their policies and their leaders
    b. Civil service reform
        (1) Conditions leading to the Reform Act
        (2) The Pendleton Law
        (3) Development of the merit system under Cleveland, Roosevelt, Taft, Wilson

2. **The Populist movement**
    a. Outgrowth of industrial and agrarian difficulties
    b. Demands in the Populist platform of 1892
    c. Effect of the Populist party in the elections of 1892 and 1896

3. **Tariff legislation and the struggle for democracy**
   - a. Effect of the Civil War tariffs on the growth of "big business"
   - b. Cleveland's attacks on the tariff
     - (1) The Mills bill
     - (2) Wilson-Gorman tariff—income tax and the supreme court decision
     - (3) The tariff a political issue
   - c. Tariff laws of 1890 and 1897 and the growth of trusts
   - d. Platform pledges regarding the tariff in 1908
   - e. Effect of the Payne-Aldrich tariff on the election of 1912
   - f. Triumph of the Cleveland idea in the Underwood tariff
   - g. The sixteenth amendment
   - h. Tariff policy of the Republicans since the War—1922 and 1930
   - i. Effects of tariff legislation on group and sectional consciousness
4. **New methods of control in industry**
   - a. Government regulation of "big business"
     - (1) Transportation—especially the laws of 1887, 1906, and 1920
     - (2) Trusts—Sherman Law; policies of Bryan, Hanna, Roosevelt; Clayton Law
     - (3) Banking—Federal Reserve Act
     - (4) Changing attitude toward business since the World War—mergers
   - b. Conservation and reclamation
     - (1) Influence of Pinchot and Roosevelt
     - (2) Legislation and projects
   - c. Government attitude and legislation in regard to labor
     - (1) Use of injunction, arbitration, mediation
     - (2) Roosevelt's "big stick" policy
     - (3) Federal court interpretations of anti-trust laws
5. **The progressive movement**
   - a. Conditions leading to the movement
   - b. Leaders and issues, 1909 to 1912
   - c. Election of 1912
   - d. Effect of Wilson's election on the progressive movement and progressive policies
   - e. New progressive party in the election of 1924
   - f. Influence of "progressives" in congress from 1924 to the present
6. **Results of progressive political reforms on democracy**
   - a. Increase in popular control
     - (1) Extension of the suffrage—14th, 15th, and 19th amendments
     - (2) Ballot and election law reforms
     - (3) Direct nominating methods
     - (4) Initiative, referendum, and recall
     - (5) Direct election of senators—17th amendment
     - (6) Limitation of the Speaker's power
7. **Extension of the powers of the government through regulatory acts and commissions**
   - a. Reform acts, such as: Pure food and drug acts, meat inspection laws, corrupt practices acts, postal savings and parcel post acts, etc.
   - b. Boards and commissions, such as: Civil Service Commission, Interstate Commerce Commission, Tariff Commission, Federal Trade Commission, Farm Board, Federal Reserve Board, etc.

D. Exercises

1. Prepare a report on the "Tweed Ring" of New York, the "Gas Ring" of Philadelphia or the "Credit Mobilier" affair
2. Compare incidents of corruption in political life following the Civil War with oil scandal and other events of the Harding administration
3. Compare the commercial resources of the South today with those of 1860
4. Make a list of the states admitted to the union since the Civil War. Compare the West of 1865 with the West of today.
5. Prepare a report on the "Granger movement" and state significant results.
6. Prepare a report on the Populist party. What was their program in 1892?
7. Explain the "Crime of '73" and the Bland-Allison Silver Act of 1878.
8. Explain the term: Free and unlimited coinage of silver at a ratio of 16 to 1. Why was there a strong demand for cheap money in 1896?
9. Prepare a report on the Gold Standard Act of 1900. What leading countries had previously adopted the Gold Standard? What gold discoveries about this time tended to relieve the money question?
10. Explain the Federal Reserve Act of 1913. What was it expected to accomplish? Has it been a success?
11. Explain the Sherman Anti-Trust Law of 1890. Has it accomplished the object sought?
12. Outline the powers and duties of the Federal Trade Commission created in 1914. What are the provisions of the Clayton Anti-Trust Law?
13. Describe Roosevelt's activities against the trusts—especially the Northern Securities Company and the American Sugar Refining Company.
14. What conditions led to the passage of the Interstate Commerce Act in 1887? Explain how the Elkins Act and the Hepburn Act added to the powers of the commission.
15. When was the Department of Commerce and Labor established? Describe its activities.
16. Make a list of the important tariff acts passed since the Civil War. Assemble what data you can for the comparison of the general scale of duties they represented.
17. Discuss the connection between the tariff and the trusts. What industries in your section benefit from protection?
18. What is the connection between tariff and the income of the national government?
19. Review the introduction of the income tax in the United States. When was the sixteenth amendment passed?
20. What circumstances led to the passage of the seventeenth amendment?
21. Describe the influences and events leading to the passage of the nineteenth amendment.
22. Where was the idea of the direct primary first put into practice? Does it seem to have accomplished everything that was hoped for it?
23. Describe different ways in which the federal government has tried to assist the farmers.

E. Important dates and events

1871—The Tweed gang was overthrown in New York City
1878—The Bland-Allison Act was passed
1879—Specie payment was resumed
1887—The Interstate Commerce Act was passed
1888—The Australian ballot was introduced in Massachusetts and Louisville, Kentucky
1890—The Sherman Anti-Trust Act was passed
1891—The Forest Reserve Act was passed
1900—Gold standard was established in the United States
1902—The Reclamation Act was passed
1906—Congress passed the Pure Food Act
1913—Sixteenth and seventeenth amendments were ratified
The Federal Reserve System of banking was established
1916—A permanent tariff commission was created
1920—The nineteenth amendment was adopted
1924—The Teapot Dome scandal was exposed

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Hagedorn, The Rough Riders. Harper & Brothers, New York
La Follette, Autobiography. La Follette's Magazine, Madison, Wisconsin
Norris, The Octopus. Grosset & Dunlap, New York
Norris, The Pit. Doubleday, Doran and Company, Garden City, New York
Palmer, Life of Alice Freeman Palmer. Houghton Mifflin Company, Boston
Price, Land We Live In. Small, Maynard and Company, Boston
Theodore Roosevelt—An Autobiography. Charles Scribner's Sons, Chicago
Shaw, Story of a Pioneer. Harper & Brothers, New York
Washington, Up From Slavery. Grosset & Dunlap, New York

Unit Eight—The United States as a World Power and the New Internationalism

A. Introductory survey

For many years the United States held aloof from world affairs, following the policy of isolation established by our early presidents. Toward the end of the nineteenth century, however, with the "passing of the frontier", American trade and commerce began to seek new markets. This led us more and more into the affairs of the world. First, in connection with the enforcement of the Monroe Doctrine, and then in the Spanish American War we were drawn into the family of nations. The war drew us also into the Pacific and revived our interest in a Panama canal. The building of the Panama canal in turn established us firmly in the Caribbean. By the time of the World War, the United States had become one of the leading world powers, and by the participation in that war we were drawn more deeply into international affairs. Even before 1918 the United States had played an important part in the movements for world peace at the Hague Conferences and at the Portsmouth Conference. Since that date we have been associated to a greater or less degree with many problems dealing with the furtherance of peace, such as the League of Nations, The World Court, the various disarmament conferences, the problems of reparations and of war debts, and the Kellogg-Briand Peace Pact. Through these America has certainly taken her place as a world power.

B. Aims

1. To understand the origin and motives of our early policy of isolation
2. To see how, through the industrial revolution which created a need for world markets for our surplus products, the United States has gradually become involved in world affairs
3. To discover and study the interests of the United States in the Pacific and the Caribbean
4. To study the causes and the results of our entrance into the World War
5. To note the part played by the United States in promoting world peace and the growing importance of the peace movement in world affairs

C. Guidance outline

1. **The policy of isolation**—foundations in
    a. Washington's Neutrality Proclamation and his Farewell Address
    b. The Monroe Doctrine
2. **The isolation policy begins to break**
    a. Blaine's Pan-American policies
    b. New interpretations of the Monroe Doctrine

    - (1) Cleveland and the Venezuela boundary dispute
    - (2) Roosevelt's Monroe Doctrine interpretations

3. **The Spanish-American War**
   - a. Cuban conditions under Spanish rule
   - b. United States' interests in Cuba
   - c. Causes for our declaration of war against Spain
   - d. The results of the war

4. **American interests in the Pacific and in the Far East**
   - a. Samoan intervention and participation
   - b. Annexation of the Hawaiian Islands
   - c. The acquisition of the Philippine Islands
   - d. Questions of colonial government
   - e. Imperialism and anti-imperialism
   - f. The Boxer Uprising
   - g. Hay's "Open Door" policy in China

5. **American interests in the Caribbean**
   - a. The Isthmian Canal
     - (1) Early interest in a canal and the Clayton-Bulwer Treaty
     - (2) Revival of interest after the Spanish-American War
     - (3) The treaty negotiations with England and Colombia
     - (4) Panama's revolt and the resulting treaty
     - (5) The building of the canal
     - (6) The Panama Tolls settlement with England
     - (7) The final settlement with Colombia
   - b. Our relations with Mexico
     - (1) American interests in Mexico
     - (2) Wilson's recognition policy
     - (3) The "A, B, C" Powers
     - (4) The punitive expedition
   - c. Our relations with the Dominican Republic and Haiti
     - (1) Under Roosevelt
     - (2) Under Wilson
   - d. Our relations with Nicaragua
     - (1) The Bryan-Chamorra Treaty
     - (2) American marines in Nicaragua

6. **The Peace movement**
   - a. The Hague Conferences of 1899 and 1907—The Hague Tribunal
   - b. The Treaty of Portsmouth
   - c. Arbitration Treaties under Roosevelt, Taft, and Bryan
   - d. Work of the Pan-American Conferences

7. **The World War**
   - a. Causes of the war in Europe
   - b. Period of American neutrality
   - c. Causes for American entrance and American participation
   - d. Wilson's war addresses and "Fourteen Points"
   - e. The Treaty of Versailles

8. **New problems of peace**
    - a. The League of Nations
        - (1) Its aims and organization
        - (2) American attitude and relation to League
        - (3) Accomplishments of the League
    - b. The World Court
        - (1) History of its organization
        - (2) Composition of the Court and its method of procedure
        - (3) The "Optional Clause"
        - (4) Our five reservations, the "Root Formula", and our present status
    - c. The problems of war debts and reparations
        - (1) European debts to America, how incurred and terms of settlement
        - (2) The Dawes and the Young plans of reparations
    - d. Disarmament
        - (1) The Washington Conference
        - (2) The Three Power Parley
        - (3) The London Naval Conference
        - (4) The work of the League preparatory commission
        - (5) The World Disarmament Conference of 1932
    - e. The Kellogg-Briand Peace Pact
        - (1) Its provisions
        - (2) Its importance in world affairs

D. Exercises

1. Read that part of George Washington's Farewell Address which deals with foreign affairs. Explain the wisdom of his policy. Try to determine the extent to which we should be governed by this policy today.
2. What did Thomas Jefferson do to keep the United States from entanglements with foreign powers? Compare the situation of the United States in 1812 with that in 1917.
3. Explain the meaning of the following terms: imperialism, world power, protectorate, "Big Stick", isolation, Open Door
4. Locate Hawaii and be prepared to tell the story of events which led to our acquisition of the islands.
5. Locate Cuba, the Philippines, Porto Rico and the Samoan Islands. Prepare a report on each, explaining our relations to them from 1898 to 1900 and at the present time.
6. Who were the Anti-Imperialists? Do you approve of their ideas? Be prepared to support your position on this question.
7. Arrange a debate on the subject: Resolved, that the United States should immediately grant the Philippine Islands their independence.
8. Review the story of the Monroe Doctrine. Explain the new applications of this Doctrine made by Cleveland and Roosevelt.
9. Show how the Monroe Doctrine has involved us in difficulties with some Latin American nations. What is the general attitude of the Latin American countries toward the policy of the United States?
10. Make a list of the different times the United States has become a party to an international dispute because of our adherence to the Monroe Doctrine.

11. What possible routes for a ship canal between North and South America have been considered? Why should the United States own and control such a canal?
12. Prepare a report on the acquisition and operation of the Panama Canal. What was the disagreement about tolls with Great Britain and how was it adjusted?
13. What important difficulties were encountered in building the Panama Canal? How were they overcome?
14. What is the Pan-American Union? Trace the story of the development of this movement and its results.
15. What were the main sources of our difficulties with Mexico during Wilson's administration? How have these been adjusted?
16. Make a list of the important causes for friction which existed in Europe prior to the World War. Make a similar list for Europe of today. Do you think the present situation is notably better?
17. Explain the "balance of power" idea as applied to European politics. Is it still adhered to?
18. Make a list of the important causes which led to entrance of the United States into the World War.
19. Prepare a report of the use of propaganda in the World War. What is your estimate of the importance of this activity in war?
20. Make a summary of America's contribution toward winning the war.
21. Explain why President Wilson insisted that the League of Nations plan be made a part of the peace treaty.
22. Explain why the United States rejected the peace treaty and refused to become a member of the League of Nations.
23. Prepare a summary of the results of the World War affecting the United States.
24. Arrange a debate on the question: Resolved, that the United States should cancel the war debts incurred by European nations to this country during the World War.
25. Explain the World Court. Review the efforts made to have the United States become a member of this organization.
26. Give a brief account of the important disarmament conferences which have been held since the World War. Summarize the results.
27. Explain the Kellogg-Briand Treaty. Try to estimate its significance in international peace.

E. Important dates and events

1889—Pan-American Congress was organized
1895—United States and Great Britain had a serious difference over the settlement of the Venezuelan boundary
1898—War was declared against Spain on April 21
The Hawaiian Islands were annexed by joint resolution on July 7
1899-1902—The Philippine Insurrection
1904—Work was begun on the Panama Canal
1914—The World War began in Europe
1915—The British passenger ship Lusitania was torpedoed and 114 American lives were lost
1917—The United States declared war on Germany April 6
1918—Germany signed an Armistice with the allies November 11th
1919—The United States Senate rejected the Treaty of Versailles because it included membership in the League of Nations
1921-1922—A conference was held in Washington to discuss limitation of armaments

1923—The United States recognized the government of Mexico
1928—Secretary of State Frank B. Kellogg negotiated the Kellogg-Briand Treaty

F. Names to identify

James G. Blaine
Grover Cleveland
John Hay
George Dewey
Theodore Roosevelt
George W. Goethals
William Howard Taft
Gifford Pinchot
Woodrow Wilson
John J. Pershing
Robert Lansing
Herbert C. Hoover
Henry Cabot Lodge
Charles E. Hughes
Charles G. Dawes
Frank B. Kellogg

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Antin, The Promised Land. Houghton Mifflin Company, Boston

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Canfield, Home Fires in France. Henry Holt & Company, Inc., New York
Cather, My Antonia. Houghton Mifflin Company, Boston
Davis, The Consul. Charles Scribner's Sons, New York
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House, Memoirs and Personal Recollections of Woodrow Wilson. Houghton Mifflin Company, Boston
Hubbard, A Message to Garcia. Thomas Y. Crowell Company, New York
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PART SIX—AMERICAN PROBLEMS

I. Introductory Statement

American Problems, as a full-year course, should fill an important place in the social science curriculum. Merging as it does the social, economic, and political problems of our nations into one unified structure, no study holds greater possibilities for individual as well as for group interests.

This brief syllabus attempts to list and give suggestions for the approach to the study from a general viewpoint. Local conditions will determine the interest of each school group, as such affairs will have more bearing on some problems than others. Each teacher will probably pro-rate the work on the various problems with this in mind.

No single textbook has been followed although any of the more generally used texts will fit in well with this course of study. A valuable addition to any text is a regular study of supplementary works of both general and specific nature.

The course is designed to cover two semesters of continuous work for either third or fourth year students; i. e., it is the equivalent of one unit. Regardless of divergence of student interest the multitude of questions arising from American Problems should challenge each student and stimulate individual activity. The course has unlimited possibilities as a vitalizing factor in stimulating constructive thinking among high school students.

II. Aims

A. To equip the high school student with a knowledge of those facts that will help him to a more accurate interpretation and understanding of the essential problems of America
B. To encourage wider reading in the field of social problems and to inculcate the habit of scientific search for social facts and tested methods of social action

C. To study concretely the chief social, industrial, economic, political and governmental problems of America

D. To teach the evolutionary nature of social institutions, and to set forth man's responsibility in their development

E. To create and strengthen in high school pupils the desire to participate sanely in the activities of good citizenship, i. e., in all social and civic relations

F. To cultivate the habit of the inquiring and hopeful mind, to show the need for sound reasoning and unselfishness in the solving of social problems, and to establish the practice of considering fairly arguments for and against proposed social changes

III. Texts and Materials

The following texts adapt themselves in a general way to a two-semester course as outlined:

Hughes, Problems of American Democracy. Allyn and Bacon, San Francisco. 1922
Greenan and Meredith, Everyday Problems of American Democracy. Houghton Mifflin Company, Boston. 1924
Burch and Patterson, Problems of American Democracy. The Macmillan Company, San Francisco. 1922
Williamson, Problems in American Democracy. D. C. Heath and Company, Chicago. 1925
Morehouse and Graham, American Problems. Ginn and Company, Chicago. 1923
Munro and Ozanne, Social Civics. The Macmillan Company, San Francisco. 1922

Reference books (see detailed list)
Periodicals and newspapers
Government pamphlets
World Almanac (New York World)
Other materials
  Charts and maps
  Surveys and diagrams

IV. Attainments

The American Problems Course is a full-year (two-semester) course and entitles the student to one unit of credit. The work given under "Outline of Study" indicates the scope of the course.

The student should be led to vision present needs as problems, and not "as mere incidents or by-products of a course in history." He should be brought to an understanding and appreciation of the method of solving problems. The method should become an ideal of procedure. However, Professor Rugg pertinently points out in this connection: "May I lay emphasis on the fact that it is not expected that twelfth-grade pupils will solve these problems and issues? Adult society itself has not 'solved' them—if it had, they would not be confronting us today. No, our task is to bring in review before students year by year and in form adapted to their developing abilities, the evidence which is necessary for the consideration of all aspects of a given problem. An unpartisan, open-minded review of the evidence on both sides is what our school pupils need most of all."

V. Procedure

The newer texts offer many valuable suggestions and devices for laboratory work. Projects, problems, discussions, and questions should be made a vital part of the course.

A. Other suggestions follow:

1. Special reports to class

2. Outsiders may talk to the class
    - a. A foreigner—experiences at Ellis Island
    - b. A city official—city problems
    - c. A local banker—information on the monetary system and Federal Reserve banks
    - d. A Filipino—independence for the Philippines
    - e. A farm club official—solution of farm questions
    - f. An industrial leader—problems of industry
    - g. A woman social worker—problems requiring social adjustments
    - h. A local lawyer—legal phases of social questions
3. Argumentative talks and formal debates
4. Making of community surveys
5. Much supplementary reading
6. Making of charts and graphs
7. Keeping notebooks for supplementary information

VI. Outline of Study

Specimen Problem Units

Some specimen units or problems in American Democracy worked out in varying degrees of detail are herewith presented and it is hoped that these will be of value as suggestions to teachers in working out other problems. The number of possible problems to study is far greater than the time available for such study. The teacher will need to be guided by the materials available for the study of problems, and will also need to consider the organization of the texts or text. The suggestions in texts are often very helpful in planning problems for study. The following are economic, social, and political problems: (Adapted from the Maryland Bulletin, Vol. VI, No. 4, December, 1924, pages 197, 204-207)

A. The defects of party government

Glenn Frank, as editor of the Century Magazine, in an editorial in September, 1924, issue, entitled "The Decadence of American Politics," puts the problem in this form: "Is the permanent political party system an adequate instrument for the administration of the American government?" Mr. Frank holds that this is the most important political question of our time and it is his opinion that the root of evil of the party system is the **permanence** of the parties; that political intelligence, political honesty, and basic justice will not be possible until men are grouped about issues, instead of issues being grouped about men holding widely varying beliefs on fundamental questions, as at present. He believes that political effectiveness demands that there be temporary parties that enter the field on definite and specific issues and leave the field when these issues have been met and mastered.

1. **The irresponsibility of party government**
    - a. Causes for irresponsibility of party government
    - b. Bad effects of irresponsibility
    - c. What changes would have to take place in order that the people may hold the dominant party to strict account?
    - d. Why is the party machine more powerful in the primaries than in the general election?

2. **The problem of the indifferent voter**
    - a. The percentage of the registered voters who voted at the last presidential election; at the last state election

- b. The indifference of the voter—the opportunity of the grafter and of the party boss
- c. Why is the primary election more important than the general election?

B. The cost of living problem

1. Vital to both the individual and society
2. May have interest to the student because of:
    - a. Changes in mode of life
    - b. Curtailment of allowance
    - c. Sacrifice of customary pleasures
    - d. Change in plans of education
3. Economic phases involve values, prices, wages, etc.
4. Sociological phases involve standards of living, birth rate, deferred marriages, divorces
5. Political phases include such matters as tariff legislation, taxation, control of trusts and transportation, and the appropriate machinery of legislation, law enforcement and judicial procedure

C. The problem of immigration

(The following treatment was suggested by the N. E. A. Committee on Social Studies)

Immigration will have been treated in an elementary way in Community Civics, and will doubtless have come up in a variety of ways in American History class. It should in this course be considered more comprehensively and more exhaustively and a chief aim should be to organize knowledge with reference to the economic, sociological and political principles involved.

1. **Economic relations of immigration:**
    - a. Labor supply and other industrial problems (on the side of "production")
    - b. Standards of living, not only of the immigrants, but also of native Americans as affected by immigration (on the side of "consumption")
    - c. Relation to the problem of land tenure in the United States
2. **Sociological relations of immigration:**
    - a. Movements and distribution of population; congestion in cities, etc.
    - b. Assimilation of immigrant population; admixture of races
    - c. Vital statistics, health problems, etc.
    - d. Educational religious problems involved
    - e. Social contributions of immigrants: art, science, ethics
3. **Political and governmental relations of immigration:**
    - a. Political ideals of immigrants; comparison of their inherited political conceptions with those of the country of their adoption
    - b. Naturalization; its methods, abuses, etc.
    - c. Administration of immigration laws
    - d. Defects and inconsistencies in the methods of our government as shown in legislation regarding immigrants and the administration of the laws
    - e. Problems of municipal government arising from or complicated by immigration

D. The foreign relations of the United States

This is a vitally important problem since the World War, and should always be included for consideration in this course. A skeleton outline for the study of this problem, adapted from the New York Regents' Syllabus in American History (Allyn and Bacon) is given herewith. This gives a rather detailed historical treatment, but it should suggest to teachers the very intimate relationship existing between the American History and Problems Courses. Such a series of studies would afford opportunity to go as far as occasion demands and time allows into the fundamental economic and political questions of the time.

1. The strained relations with foreign powers at the time of the election of Washington (1789)
2. A general European War (1789-1793) bringing important results to the United States
3. America's doctrine of isolation as developed between 1789 and 1815
4. The Monroe Doctrine (1823)
5. The Webster-Ashburton Treaty (1842)
6. The Oregon Treaty (1846)
7. The Mexican War
8. The Gadsden Purchase (1853)
9. Our relations with Europe during the Civil War
10. The Purchase of Alaska
11. The settlement of the fisheries disputes
12. The beginning of our Pacific Ocean interests
13. The development of the Monroe Doctrine since the Civil War
14. The United States becomes a World Power
15. The growth of our Caribbean Sea policy
16. The Mexican problem of today
17. Our relations with Far Eastern powers
18. The Great European War
19. America's part in the international peace movement

E. The problem of taxation

(Adapted from the Utah Course in Social Studies)

1. **The aims should be:**
   a. To give a treatment of the social, economic and ethical aspects of the problem of taxation
   b. To develop an appreciation of the importance and bearing of taxation upon the lives of individuals
   c. To acquaint the student with the existing local, state and national tax systems
   d. To give an understanding of the elements of a just and equitable tax

2. **After acquainting the student with the objectives,** the teacher should plan the work around such main topics as
   a. The value of taxation
   b. Kinds of taxes and machinery for collecting
   c. Elements of a good tax

3. **The problem of taxation may be introduced by**
   a. Showing the need of government for revenue
   b. Indicating the sources of revenue with emphasis on taxation
   c. Showing the benefits derived by the individuals in society from the governmental organization

Various phases of the above items may be studied, such as law enforcement, protection from foreign foes, conservation of natural resources, maintenance of government institutions, education, etc.

4. **Conclusions to be drawn from the study:**
   - a. That there is an imperative need for taxation
   - b. That taxation, in some form, is the only legitimate means of securing the revenue
   - c. That taxation bears an important relation to the life of the individual

5. **Suggested activities for students:**
   - a. Collecting and tabulating items of government expense
   - b. Listing the various sources of revenue
   - c. Making a detailed study of the benefits derived from government
   - d. Determining the cost of one of the following public enterprises in home town: water system, sewage system, lighting, police, fire, garbage, streets, city library, etc.
   - e. Reviewing the history of tax systems in effect in early times, such as the Egyptian, the Medieval period, The Feudal Age, the Old Regime, etc.
   - f. Studying the defects of the present tax administration in order to aid in forming a just and equitable tax system
   - g. Determining by investigation, the town, county, and if possible, the state tax rates, together with the proportion spent for various purposes such as education, roads, protection of property, etc.
   - h. Comparing the assessed valuation of a house, etc., with the real or actual value
   - i. Making a graphical representation of statistics on some certain list of significant facts obtained from a reliable source
   - j. Making an investigation of gasoline tax; amount in the various states and what it is used for
   - k. Determining the approximate percentage of the people in the community owning the homes they occupy
   - l. Making a study of the new **Elementary School Budget** of 1931
   - m. Making a study of the recent tariff laws and discussing their effects
   - n. Determining exactly how your student body is financed
   - o. Reporting on special topics assigned
   - p. Working local tax problems
   - q. Debate; Resolved, That a graduated income tax is just
   - r. Making a study of the Federal Budget Law and its workings

6. **Representative questions for discussion:**
   - a. Ought all people to be taxed equally for the building and maintenance of schools?
   - b. Why should the rate of taxation be higher in urban than in rural communities?
   - c. Name some sources of federal revenue.
   - d. Is a state or county official legally or morally justified in exempting his own property from taxation?
   - e. Should the government be operated on a business basis? Is it possible to do so?
   - f. Should the people be made to fit the tax or should the tax be made to fit the people? Explain.
   - g. How does a corporation tax cause some people to be taxed twice on the same wealth?

h. Are all children entitled to equal educational opportunities? If so, should the rich sections help to pay the school expenses of the poor sections?
i. Who benefits from taxes? Why pay them?
j. Should an individual who has $10,000 worth of cash, stocks, or bonds, pay taxes comparable with the person who has a farm or home valued at $10,000?
k. Is it profitable to farm land worth $1000 an acre?
l. Should improvements be taxed? Why or why not?
m. What are the principal forms of taxes employed by the nation? The state? The county? The city?
n. Should the voter necessarily be a taxpayer?
o. To what extent are certain kinds of property exempted from taxation?

F. Ethical problems

(The following was adapted from the Fourth Yearbook of the Department of Superintendence, pp. 403-404.)

Since the public schools have to teach morals and ethics to pupils of all and no religious affiliations, it becomes necessary that a basis of moral obligation be found that can be appealed to irrespective of religious sanctions. This basis may be found in the study of human nature and society, but more especially in the study of the history of civilization and the nature of contemporary society. The relation of the development and the transmission of the social inheritance to human welfare and the progress of civilization can be made clear in the high school social studies courses and particularly in a course like American Problems or Problems in Democracy. These concepts may then be used as a foundation for teaching social ethics by summarizing the nature of social inheritance and showing the dependence of the individual in modern society upon all who have gone before as well as upon contemporaries. By connecting these facts with the idea of equivalent return for benefits received, a commonly accepted element of justice, it is possible to find a very sure and impressive basis of moral obligation—the obligation of the individual, for values received from humanity, to return service to the full extent of his ability. This universal dependence of the individual in a civilized society upon his fellow men is an aspect of the fact of human solidarity from which moral obligations logically follow. Material drawn from history, civics, economics, and sociology will provide the factual content for study of the relation of man to his natural environment and to his fellow men, of the nature and function of social institutions, and of the obligations of individuals to these institutions, and of institutions to society at large. The topics chosen will be selected for their bearing upon fundamental ethical principles and should be so treated as to bring to light these principles and show how they may be applied. Among topics most worth while from this point of view are the following:

1. **The conservation and development of human life through:**
   a. Health education
   b. Public sanitation
   c. Child welfare
   d. Regulation of conditions of labor in industry
   e. Prohibition of traffic in narcotics, alcoholic beverages, and adulterated foods
   f. Prohibition of white slavery and of all forms of prostitution
   g. Fostering education

    - h. Encouragement of wholesome recreation
    - i. Arousing interest in the subject of conservation and use of the natural resources upon which human life depends
    - j. Study of questions incident to density of population and the rise in the standards of living as:
        - (1) Attitude of the state toward private property
        - (2) Limitation of size of family
        - (3) Women and children in industry
        - (4) Methods and the limitation of taxation and public expenditures
        - (5) Ownership and regulation of public service corporations
- 2. **Other social problems having ethical values:**
    - a. Marriage and family responsibilities
    - b. School community life
    - c. Vocations and business
    - d. Civic responsibilities, including the ethics of democratic government and of international relations

Content

In the following outline, the material has been grouped under three heads: Social, Economic, and Political, because most problems of our democracy come under one of those heads. "The problems of our complex modern civilization are many, and though it is true that they pay no heed to technical boundaries between the various sciences but are the joint product of political, social and economic forces, some problems are by nature primarily sociological, others are primarily economic, while still others are mainly political." However, the teacher should feel free to consider the three features of the same problem; e. g., the immigration problem has a social, an economic and a political aspect. The same may be said of other problems. Often there is a tendency on the part of writers of social science texts and of teachers to place greater emphasis on social problems and to neglect economic and political questions of the day. If the teacher remembers that "A very large part of human activity is devoted to the process of getting a living . . . . . These activities are our economic activities," and that "There are many winding roads in the domain of the social sciences, but sooner or later they all lead through the realm of government," he will be careful to place the proper emphasis in each field. One of the chief aims should be to organize knowledge with reference to the economic, sociological and political principles involved. The order in which the problems are taken up is immaterial. Sometimes the problem may be an issue in state or nation and may be in the focus of interest, or the problem may develop logically out of consideration of still other problems.

A. Our social problems

- 1. **The family in American democracy**
    - a. Forms of human association
    - b. The functions of the family
        - (1) Its primary function
        - (2) Its service in conserving social possessions
        - (3) Its work in social progress
        - (4) The family in industry
    - c. Origin of the family
        - (1) Biological foundations of the family
        - (2) Development among the lower animals
        - (3) Development among the higher animals

d. Forms of the family
  - (1) Maternal and paternal families
  - (2) Polyandry
  - (3) Polygamy
  - (4) Monogamy

e. Development of the family
  - (1) The family in ancient times
  - (2) Influence of Christianity

f. Social changes
  - (1) The industrializing of industry
  - (2) Decline of parental authority
  - (3) Women and children in industry
  - (4) The share of religion in family life
  - (5) New burdens on public education
  - (6) Rural and city family life of today
  - (7) Divorce—its causes, results, and possible remedies

g. Problems
  - (1) Discuss the family from the standpoint of the fundamental unit of society:
    - (a) As the source of physical and mental heritage
    - (b) As the school for training for private and public life
    - (c) As the source of moral standards
    - (d) As an economic unit
  - (2) Trace the socialization of the individual
  - (3) Compare the standards of home life of early colonial days and the present
  - (4) What principles and habits learned in the home should make for better citizenship?
  - (5) What are the effects of great wealth on the stability of the home?
  - (6) Enumerate as many causes for divorce as possible
  - (7) List the aids in stabilizing family life under legislative, judicial, economic, and social remedies
  - (8) Why is family life in a period of transition? Make a list of reasons.
  - (9) Investigate and report on the marriage and divorce laws of Montana. Suggested changes?
  - (10) Make a list of your aims, interests, prejudices, ambitions, and habits that are traceable to the home
  - (11) Find examples of literature that dignify and idealize the home
  - (12) Explain the following quotations:
    "Child labor helps to disintegrate the home."
    "Young people are sometimes parasites on their parents." —Ross
    "Increasing divorce is a menace to society."

2. Our people—old and new

a. Immigration to America
  - (1) Early immigrants in America
    - (a) Sources and numbers
    - (b) Reasons for migrating
    - (c) Location and distribution
    - (d) Their character and purpose
  - (2) Immigration 1820-1890
    - (a) Sources and number
    - (b) Reasons for migrating
    - (c) Location and distribution
    - (d) Standards, character and purpose

- (3) Immigration 1890-1931
  - (a) Sources and relative numbers
  - (b) Reasons for migrating
  - (c) Location and distribution
  - (d) Standards, character and purpose
- (4) Problems of immigration
  - (a) Relation of immigrants of 1820-1890 to early settlers
  - (b) Relation of immigrants who came after 1890 to early settlers
  - (c) Social effects of immigration
  - (d) Economic effects
  - (e) "Square deal" for the American and the immigrant
- (5) Restrictions on immigration
  - (a) Reasons for such measures
  - (b) Success or failure of restriction

b. The Indian's place in America
- (1) The Indians as the early settlers found them
  - (a) The tribal distribution
  - (b) Indian life, standards and character
  - (c) Their attitude toward settlers from Europe
  - (d) The attitude of the settlers toward the Indians
- (2) Later relations
  - (a) Before independence of the English settlements
  - (b) The policy of the United States
  - (c) Reasons for failure of this policy
- (3) Present-day place of the Indians
  - (a) New attitude of the government of the U. S. and states
  - (b) Adjustment of the Indians

c. The Negro problem
- (1) The background of the problem
  - (a) The racial heredity of the Negro
  - (b) The influence of slavery and its abolition
- (2) Conditions of the Negro
  - (a) Distribution of our Negro population
  - (b) The social condition of the Negro
  - (c) Industrial condition of the Negro
  - (d) Educational progress
  - (e) Political conditions
- (3) Present-day outlook on this problem

d. Asiatics in America
- (1) Source and number
- (2) Reasons for coming to America
- (3) Location
- (4) Standard of living, character
- (5) Attitude of the United States
- (6) Pacific coast land laws

f. America (our United States) of the future
- (1) Problems of adjustment and assimilation
- (2) Solutions of problems

g. Problems
- (1) How are the problems resulting from Asiatic immigration different from those resulting from European immigration?
- (2) Compare the "old" and the "new" immigration as to racial, occupational, social, educational, and governmental characteristics.

- (3) What contributions to our civilization have been made by immigrants?
- (4) Make a list of immigrants who have "made good."
- (5) What is the purpose of an Americanization program? What responsibility has the average American in such program?
- (6) Approximate the number of foreign-born, native-born of foreign parents, and native-born of native parents, in your community. What nationalities predominate?
- (7) What effect may the recent migrations of the negro northward have on social and industrial conditions of different parts of the country?
- (8) City congestion is one of the problems resulting from immigration. What may be done to relieve this situation?
- (9) Study the great Negro leaders and their work.

3. Social maladjustment

- a. Crime
  - (1) The nature of crime
    - (a) The history of crime
    - (b) The growth of law and its relation to crime
    - (c) Classification of crime
  - (2) Crime in the United States
    - (a) Adult criminals
    - (b) Juvenile delinquency
    - (c) Present-day cost of crime
  - (3) The causes of crime
    - (a) Individual
    - (b) Environmental
    - (c) Social conditions
    - (d) Economic conditions
    - (e) Administration of criminal law
  - (4) Criminal procedure of the past
    - (a) Ancient methods
    - (b) Medieval adjustments
    - (c) Changes of the 18th century
    - (d) Changes of the 19th century
  - (5) Criminal procedure of today
    - (a) Apprehension
    - (b) Trial
  - (6) The question of punishment
    - (a) Purpose
    - (b) Kinds
    - (c) Modern attitudes
- b. Poverty and dependence
  - (1) Causes
    - (a) Hereditary, mental, and physical defects
    - (b) Physical causes
    - (c) Disease
    - (d) Economic and social causes
  - (2) Extent of poverty and dependence in United States
  - (3) Results of poverty
  - (4) Remedies
    - (a) Education
    - (b) Control of immigration
    - (c) Wise relief measures
    - (d) Careful legislation
- c. The liquor problem
  - (1) The Temperance movement

        - (a) Beginnings of temperance
        - (b) The W. C. T. U.; The Anti-Saloon League
    - (2) Methods of regulating the liquor traffic
        - (a) Local option
        - (b) The license system
        - (c) State prohibition
        - (d) National prohibition
    - (3) The Eighteenth Amendment and the Volstead Act
    - (4) The present status of the problem
- d. Problems
    - (1) Why does crime persist in a highly civilized society?
    - (2) List the reasons for the high percentage of crimes in congested areas.
    - (3) What is the attitude of the free wage earner toward convict labor?
    - (4) Make a study of the management of jails and prisons. What benefits and what dangers exist? Suggested changes?
    - (5) Debate—Resolved: That the scientific regulation of immigration is essential to the safety of American institutions.
    - (6) Desire for easy money as a contributing cause to crime as seen in certain foreign elements in cities; many youths; gangsters; weak public officials. Solution?
    - (7) What are the outstanding causes of negro criminality?
    - (8) Compare the relative amount of juvenile delinquency among the foreign-born and the native-born.
    - (9) Name the correctional institutions in Montana. For what types of offenders is each?

4. Education in America

- a. Early education
    - (1) Educational heritage from Europe
    - (2) Early education in America
- b. Our present system
    - (1) Graded—elementary, secondary, higher
    - (2) Vocational education
    - (3) Adult education
- c. Purpose of education
    - (1) Training for citizenship
    - (2) Vocational advancement
    - (3) Socializing values
    - (4) Intellectual improvement
    - (5) Health and recreation—playgrounds, parks, gymnasiums
- d. Relation of the home and school
- e. Problems
    - (1) Debate or discussion on: Should educational control be a national rather than a state function? Give reasons.
    - (2) Make a comparison of the schools of the colonial, the early nineteenth century, and the present day.
    - (3) How are the schools of Montana supported? What is the new budget law? What is the purpose of the Equalization Fund? How administered?
    - (4) Make a study of the life of Horace Mann.
    - (5) What are the seven cardinal principles of secondary education?
    - (6) Report on: Advantages and disadvantages of free textbooks.
    - (7) Why are educational adjustments necessary?

- (8) Discuss the Smith-Hughes Act of 1917.
- (9) What should be the high school attitude toward college entrance requirements?
- (10) Discuss, "In providing for a free public school system, the state is not conferring a gratuity, but is making a long term investment."
- (11) Discuss, "Without popular education, no government resting on popular action can long endure" (Woodrow Wilson in History of the American People), or "Education may not make a man a good citizen but surely ignorance tends to prevent his becoming a good citizen." (Theodore Roosevelt)
- (12) What is the justification for the compulsory school laws? Just what is the provision in Montana?
- (13) Debate—Resolved: That a community has a right to expect better service from a high school graduate than from one who has not had such a course.
- (14) What responsibility has the school with regard to preparation for homemaking and vocational training?

5. Religion

- a. Early forms
  - (1) Pagan worship
  - (2) The Hebrew religion
  - (3) Christianity
- b. Modern religion
  - (1) Religious influence in America
  - (2) Standing of the churches
- c. Functions of religion
  - (1) Spiritual
  - (2) Educational
  - (3) Social
- d. Problems
  - (1) Society taxes itself for the support of schools. Should it support churches in the same way? Give reasons for your answer.
  - (2) What has been the influence of religion on literature, music, art, sculpture, and architecture?
  - (3) Name several criticisms of the church.
  - (4) Do most people prefer to live in a community with churches? Why?
  - (5) Distinguish between creeds and religion.
  - (6) How is the church dependent upon economic conditions?
  - (7) What is the church doing in the way of social service?

6. Problems of distribution of population

- a. Our rural communities
  - (1) Early rural life in America
  - (2) Farm tenancy
    - (a) Beginning of the problem
    - (b) Types of landlord
    - (c) Causes of tenancy
    - (d) Dealing with the problem
  - (3) Changing conditions in agriculture
    - (a) Machinery and farm labor
    - (b) Changing methods of production
    - (c) Passing independence of the farmer
    - (d) Rural transportation
    - (e) Marketing

- (4) Social problems
  - (a) Lack of social and educational facilities
  - (b) Attractions of city over country life
  - (c) Isolation
- (5) Rural progress
  - (a) The community idea of cooperation
  - (b) Improved educational facilities
  - (c) Community recreation
  - (d) Government assistance
  - (e) Legislation favorable to farmers
  - (f) Vocational and agricultural education
  - (g) Department of Agriculture
- (6) Questions
  - (a) List the important mechanical inventions that have improved agriculture.
  - (b) What is the relationship between rural progress and tenant farming?
  - (c) Why is America changing from a farming to a manufacturing nation?
  - (d) List all the causes for the movement of population to the cities.
  - (e) What is the purpose of the Rural Life Commission?
  - (f) Under what conditions may a "back to the farm" movement be started?
  - (g) Discuss the advantages of the consolidated school.
  - (h) How can country life be made more attractive?
  - (i) Discuss: Absentee landlordism in American rural life
  - (j) List the advantages and the disadvantages of the Federal Farm Loan system.

b. Problems of the city

- (1) Causes of city formation
  - (a) Social
  - (b) Economic
- (2) Urban problems
  - (a) Economic disturbances and difficulties
  - (b) Problems of government
  - (c) Social conditions
- (3) Civic improvement
  - (a) Agencies for the work
  - (b) Success
- (4) Questions
  - (a) Has the increase in urban population made new problems? What? How?
  - (b) Why have most American cities been so poorly planned?
  - (c) Account for the poor government of many American cities.
  - (d) Compare the advantages of the various kinds of city government.
  - (e) How can the foreigner be assimilated into American community life?

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See teachers' list at the end of the outline

B. Our economic problems

1. Production

a. Early forms of production
b. The industrial revolution
    (1) Invention
    (2) Economic changes
    (3) Separation of workman from ownership of his tools
c. Factors in production
    (1) Land
    (2) Labor
    (3) Capital
    (4) Management
    (5) The State—legislation and taxation
d. Business organization
    (1) The entrepreneur
    (2) The partnership
    (3) The corporation
        (a) Its organization
        (b) Advantages
        (c) Disadvantages
    (4) Monopolies
        (a) Kinds of monopolies
        (b) Government regulation
    (5) Mergers
    (6) Trusts
    (7) Holding companies

- e. Large scale production
    - (1) Division of labor
    - (2) Advantages of large-scale production
    - (3) Control by the public
- f. Consumption
    - (1) Interdependence of consumption and production
    - (2) Demand
    - (3) Supply
    - (4) Prices
    - (5) Overproduction
- g. Problems
    - (1) Why did the domestic period of production make for social isolation? Why was there then no unemployment problem?
    - (2) What was the relation between the producer and the consumer in the domestic period?
    - (3) Why is governmental supervision necessary in large-scale industry?
    - (4) Distinguish between money and capital, between wealth and capital, between common and preferred stock. Explain "standard of living".
    - (5) List the characteristics of a good business organizer. Make a study of some of the great industrial leaders as: Rockefeller, Ford, James J. Hill, Judge Gary. What qualities have helped to make them great industrially?
    - (6) Does modern production make for class distinction or for social democracy? Give reasons for your answer.
    - (7) What are the conflicting claims of capital and labor in disputes?
    - (8) Debate—Resolved: That Capital and Labor are mutually interdependent.
    - (9) What is the distinction between a protective tariff and a tariff for revenue only? Give their effects on production and consumption.
    - (10) List the advantages and disadvantages of division of labor; of large scale production.

2. **Transportation and communication**
    - a. Early transportation and communication
    - b. Functions of transportation
    - c. Functions of communication
    - d. Agencies of transportation
        - (1) The railroad
            - (a) Consolidation
            - (b) Government regulation
            - (c) Railroad problems
        - (2) Water transportation
        - (3) Air transportation
        - (4) Motor transportation
        - (5) Electric transportation
    - e. Agencies of communication
        - (1) The telegraph
        - (2) The telephone and television
        - (3) The postal service
        - (4) The newspaper and magazine
        - (5) The radio

- f. World trade
    - (1) World markets
    - (2) World exchange
    - (3) Tariff
    - (4) American foreign trade problems
- g. Problems
    - (1) In what way may roads be said to be a test of civilization?
    - (2) Is interdependence between sections of the United States a good thing?
    - (3) List all the advantages of international trade. How does tariff affect such trade?
    - (4) There are three possibilities for railroad management—private ownership, public ownership, private ownership with government regulation. Give arguments for and against each possibility.
    - (5) Show the relation between transportation rates and the cost of living.
    - (6) Discuss the powers and duties of the Interstate Commerce Commission.
    - (7) What are the transportation problems of your community?
    - (8) What problems of control enter into radio broadcasting?
    - (9) Under what circumstances has society the right to deny to some men the privilege of running their cars?

3. Modern exchange

- a. Early methods of exchange
- b. Invention of money
    - (1) Functions of money
    - (2) Early types
    - (3) Modern coinage
    - (4) Relation of money to price
- c. Banking
    - (1) Origin
    - (2) Functions and modern banking
    - (3) Kinds of banks
    - (4) The Federal Reserve System
    - (5) Consolidation
- d. Credit and credit instruments
    - (1) Meaning and functions
    - (2) Modern credit instruments
- e. Financing modern business
    - (1) Stocks
    - (2) Bonds
    - (3) Short term credit
- f. Investment
- g. Problems
    - (1) How do you account for the increase in money in the United States during the World War and since? Effects on prices; on the purchasing power of the dollar?
    - (2) Make a study of the history of banking in the United States.
    - (3) Make a map showing the location of the Federal Reserve Banks. Give reasons for their location. How is elasticity of credit and currency secured by the Federal Reserve Act?

  - (4) What six uses of credit does Hughes list in his Problems of Democracy
  - (5) When municipalities are contemplating public improvements, which is the better policy to adopt "Pay as you go", or "Bond issues"?
  - (6) Compare bimetallism and monometallism.

4. **Conservation of our natural resources**
   - a. Early treatment of national resources—Liberal land policy of the government
   - b. The conservation movement
   - c. Our resources
     - (1) Agricultural resources
       - (a) Improved agricultural practices
       - (b) Irrigation
       - (c) Drainage
     - (2) Forest areas
       - (a) Location
       - (b) Protection and elimination of waste
       - (c) Reforestation
     - (3) Mineral wealth
       - (a) Location of important deposits
       - (b) Modern methods of mining
       - (c) Modern methods of reductions and refining
       - (d) Present status of the industry
     - (4) Water power
       - (a) Hydroelectric development
       - (b) Possibilities for the future
   - d. Problems
     - (1) What, if any, is the relation between the conservation of natural resources and national welfare? efficiency? trade? love of the beautiful? (National Parks, bird life, wild flowers)
     - (2) Is there any connection between the wastefulness of Americans and our abundant natural resources?
     - (3) Debate—Resolved: That government should protect life and health as a prerequisite to the pursuit of happiness.
     - (4) What is the connection between flood control and deforestation? Is state or federal regulation preferable? Why?
     - (5) How has Westward expansion influenced American history?

5. **Labor problems**
   - a. Labor organizations
     - (1) Early labor groups
     - (2) The union
     - (3) The American Federation of Labor
   - b. Labor troubles
     - (1) Strikes
     - (2) Boycotts
     - (3) Lockouts
     - (4) Open shop versus closed shop
     - (5) Mediation of labor disputes
     - (6) Losses from labor disputes
   - c. Women in industry
     - (1) Reasons for

    - (2) Extent of employment
    - (3) Results
- d. Child labor
    - (1) Extent
    - (2) Reasons for
    - (3) Results
- e. Unemployment
    - (1) Causes
    - (2) Extent
    - (3) Methods of prevention
- f. Labor legislation—state and national
- g. Problems
    - (1) List the factors affecting wages.
    - (2) Explain: "The employer's interest lies in money wage, while the laborer's interest lies in real wage".
    - (3) What are some of the problems which involve women in industry?
    - (4) What effect has immigration on labor problems?
    - (5) Trace the most important steps in the development of trade unionism in America.
    - (6) Describe some of the systems of accident, sickness and old-age insurance now in operation.
    - (7) Is there any relation between fair distribution of wealth and public opinion?
    - (8) How is the distribution of wealth related to all the social, economic and civic problems of the United States?
    - (9) Name the agencies and factors that work for industrial peace.
    - (10) Why have the various attempts of Congress to pass a child-labor law failed?
    - (11) How may reading the biographies of great labor leaders help to solve labor problems?

6. Apportionment of the national wealth

- a. Nature of the distribution
    - (1) Factors sharing in it
    - (2) Theories of distribution
- b. Rent
- c. Wages
- d. Interest
- e. Profits
- f. Social legislation
- g. Problems
    - (1) Explain: "Wages, interest, taxes and rent are the prices agreed upon in payment for human services, capital, government protection and land." Is the price paid for those determined by the supply of and demand for, those factors?
    - (2) Explain: "The larger the average wealth of income in any one group, the smaller is the number of persons in that group". (Fairchild, Essentials of Economics, page 513.)
    - (3) One of the causes for social unrest among the masses is the tendency for wealth to concentrate in a relatively few hands. Explain.
    - (4) Explain what is meant by earned and unearned incomes. Is the distinction easily made?

(5) Debate—Resolved: That every earner of income should be required to save a certain portion of his earnings each year, thus making all men capitalists as well as workers.

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See teacher's list at the end of the outline

C. Political Problems (our government)

1. The National Government

a. Constitutional basis for government

b. Legislative
  (1) Organization of Congress
    (a) Representation in Congress
    (b) Election of senators and representatives
    (c) Powers of Congress
  (2) Operation of the legislative department
    (a) Assembly and adjournment
    (b) The House of Representatives
    (c) The Senate
  (d) Congressional committees
  (e) Lobbying

c. Executive
  (1) The President
    (a) His qualifications
    (b) Election of the President
  (2) The Vice-President
    (a) Qualifications
    (b) Election
  (3) Presidential succession
  (4) Powers and duties of the President
  (5) The Cabinet
    (a) Organization of the departments
  (6) Boards and commissions

d. Judiciary
  (1) Independent of other departments of the government
  (2) The Supreme Court
    (a) Composition
    (b) Powers
  (3) Other federal courts
    (a) Composition
    (b) Powers

e. Territories and dependencies
  (1) Form of government
  (2) Continental dependencies
  (3) Insular dependencies
  (4) Attitude of the United States toward its dependencies

f. Problems
  (1) Why is our Government so often called a "Government by Committees"? Name the most important committee in each branch of Congress. List the reasons why it is necessary that so much work be done by committees.
  (2) Explain caucus; appellate and original jurisdiction; filibuster; ex-post facto; national budget system; quorum; log rolling; senatorial courtesy; direct primary.
  (3) During the session of Congress, collect newspaper clippings dealing with the work of that body.
  (4) The tendency to increase the powers and jurisdiction of the national government at the expense of the state governments seems to be on the increase. Give reasons for this tendency. What are the arguments for and against this trend?
  (5) It is respectively four and thirteen months between the election of President and of members of Congress and their assumption of office. Are there any disadvantages to such arrangement?

2. State government

a. The state legislature (The Assembly)

- (1) Organization
  - (a) The House of Representatives
  - (b) The Senate
- (2) Powers
- (3) Passage of bills
- (4) Direct legislation
- (5) Attitude of the people toward the legislature

b. The state executive

- (1) Powers and duties of the Governor
- (2) Other executive and administrative officers
- (3) Appointment and removal
- (4) Attitude of the people toward the Governor

c. The state judiciary

- (1) Selection of the judicial officials
- (2) State courts
  - (a) Composition
  - (b) Powers
- (3) Relation to the federal judiciary

d. Problems

- (1) Is there any significance in the fact that our national and all state constitutions contain a bill of rights?
- (2) How do the powers of the Governor compare with the powers of the President? Conclusions? Would it perhaps make for greater effectiveness to enlarge the Governor's powers?
- (3) Give arguments for a shorter ballot.
- (4) What are the advantages (the disadvantages) in having the legislative session limited in time?
- (5) What duties not found in national courts must be performed by state courts?
- (6) Explain the gradual concessions of powers from state to federal authority.

3. Local government

a. The county

- (1) The share of the county in the government of the state
- (2) County officers
  - (a) Election
  - (b) Powers and duties

b. The township

c. Municipalities

- (1) Necessity for municipal organization
- (2) Types of municipal government
- (3) Problems of cities

d. Problems

- (1) What are the duties, powers, length of term and remuneration of the county commissioners?
- (2) How are the county officials nominated? List the duties of the county officers.
- (3) When taxes are delinquent, what county offices are first eliminated? Are these always the least important?

4. Political parties and public opinion

a. Party organization

- (1) National parties
  - (a) The national committee
  - (b) Functions

- (2) Party platforms
  - (a) Campaign issues
- (3) Nominations
  - (a) Methods of nominating
- (4) National conventions
- (5) The presidential campaign

b. Public opinion
- (1) Agencies for formulating
- (2) Value of public opinion
- (3) Its power
- (4) Adult education as a means of forming intelligent public opinion

c. Questions
- (1) How have third parties benefitted our government?
- (2) Under what conditions does a party tend to split into factions?
- (3) What are the agencies for formulating and controlling public opinion along political lines?
- (4) Does the primary system tend to weaken or strengthen a party?
- (5) How has the growth of the modern city intensified political problems?
- (6) In what way is the ballot a safeguard against political revolution?
- (7) Does the school or the press have the greater influence on the opinion of American people? Discuss.
- (8) Debate—Resolved: That no citizen be permitted to vote who has not satisfactorily completed the eighth grade.

5. International relations

a. Organization to handle foreign relations
- (1) International law
- (2) The diplomatic service
- (3) The consular service
- (4) Treaties and arbitration

b. Foreign problems of recent years
- (1) Mexican relations
  - (a) The alien land laws
- (2) Nicaragua
- (3) Haiti
- (4) The Philippines
  - (a) Demand for independence
- (5) The war debts
- (6) Restriction of immigration
- (7) Great Lakes-St. Lawrence Waterway
- (8) Liquor, alien, and narcotic smuggling
- (9) China and Japan
- (10) The Soviet

c. International peace
- (1) The Hague Tribunal
- (2) The League of Nations
  - (a) Formation
  - (b) Purpose
  - (c) Attitude of the United States
- (3) The World Court
  - (a) Formation
  - (b) Purpose
  - (c) Attitude of the United States

  - (4) International disarmament
    - (a) The Washington Conference
    - (b) The Geneva Conference
    - (c) The London Conference
    - (d) Disarmament today
  - (5) The Kellogg-Briand Peace Pact
  - (6) Pax Americana—Pan-American Union
  - (7) General outlook for the future
- d. Problems
  - (1) What advantages does America have for world leadership?
  - (2) Is public opinion responsible for much of the success or failure of international agreements, treaties, conferences?
  - (3) What are the benefits from such international organizations as: Universal postal union; Pan-American Union; International labor office; International Bureau of American Republics?
  - (4) Discussion—Disarmament as an ideal and as a policy.
  - (5) Explain the close relation between the European debt settlement and the American citizen's interest.

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PART SEVEN—ECONOMICS

I. Introductory Statement

The scientific study of the activities of men in getting a living is known as economics or political economy. As such it is closely related to human wealth and welfare. It is the most exact of the social sciences. Its place in the schools is assured because of: its interest to the student; its disciplinary values; the training it provides in citizenship; and its importance as an essential part of education. Most of the leading questions of the day are economic as well as political problems, and their solution requires a knowledge of economics. Economic theory is closely related to questions of the day, as: the tariff; taxation; money and banking; corporations and trusts; railways and transportation; and labor problems. There should be an insistent desire on the part of students and teacher to get at the truth of every topic under consideration. No other subject offers as many pitfalls as does Economics, and no other subject needs to be handled with such care. Too often teachers of economics find it advisable to confine discussions of such topics as organized labor, banking and corporate interests, within narrow academic limits. The specific local economic questions, problems, and institutions that can be observed directly should serve as a means of applying general underlying principles as well as a means of motivating the study of economics. The fact remains that the problems exist and because of their close connection with everyday life, they exercise a powerful influence in many communities. Often a single debatable question with all its ramifications may be used to illustrate many economic principles.

II. Objectives

A. To aid in securing certain important information (not easily obtained in other fields), which will serve to give basic unity to the course
B. To acquire some facility in abstract and logical thinking. (Undoubtedly, the subject of economics offers greater opportunity for abstract thinking along logical lines than any other high school subject.)
C. To give the pupil such an insight into the structure and functions of the economic society in which he lives, as will aid in the solution of every-day problems
D. To develop a broad social view and a willingness and ability to participate effectively in promoting the welfare of society
E. To develop critical evaluation of data, through sharpening the powers of observation, through acquainting the student with the sources of current economic thought, and through promoting an intelligent and effective use of newspapers and magazines
F. To develop the realization that the security of both the individual and society depends upon mutual understanding of the interdependence and need for cooperation existing between individuals and social groups
G. To show the individual pupil that his duty to himself, to his family, to his group, and to society consists in an appreciation and understanding of the principles of economics essential to a wise choice and successful pursuit of his life's work, and in making the most of his possibilities for giving service to humanity

III. Attainments

Economics and Sociology, each for a semester, may be offered in the senior (twelfth) year instead of the course in American Problems. The course in Economics is planned for one semester—preferably in the senior year, entitling the student to one-half unit of credit. The Bulletin of the University of Nebraska High School Manual makes the following valuable suggestions: "The pupils should leave the course with a good working theory, a vocabulary of economic terms well-defined, some knowledge of the facts of the economic world, ability to understand tables of statistics and graphs, an interest in economic and social betterment, and an acquaintance with economic literature and sources of knowledge, so that they may be able, upon occasion, to inform themselves about questions of the day and the problems which they have to face in public and private life."

IV. Procedure

The introduction of personal experiences and local problems will aid in presenting the general principles and methods of science as they are applicable to economics.

Supplementary readings, including many of the current articles, should be assigned often for giving breadth to the viewpoint. Participation in clear discussions of vital economic problems should be insisted upon from each student. Problems and Exercises in Economics, by Harry Gordon Hayes (H. Holt & Co.), will aid materially in supplying questions for such discussions. Oral and written reports, formal and informal debates, and visits to such industrial plants as the locality affords, will give variety to the work.

A scrapbook of clippings on economic problems and questions, e. g., immigration, tariff, public utilities, banking laws, strikes, unemployment, etc., will serve to motivate interest in present day topics. These clippings should be accompanied by the student's comments. Date and source of material should be given. Persons qualified through experience or association may occasionally give talks on economic topics contributing much to the interest and practical worth.

Review of essential factors presented as problems should be frequently made.

Success in teaching high school economics depends largely on approaching every topic with an open mind, with a determination to find the truth and to teach it accurately, being careful, however, that what appears to be the truth is unquestionably the truth.

V. Outline of Study

A. Introduction—Preliminary survey of economics

B. Consumption

1. Nature of consumption
2. Laws of consumption
    a. The law of diminishing utility
    b. The law of marginal utility
3. Thrift
    a. In use of property
    b. In expenditures
    c. In investments
4. Demand, supply and price
    a. What is the relation of these factors?
    b. How is market price determined?
    c. The competitive market price and its fluctuations?
    d. What causes a thing to have value?
5. Practical aspects of consumption
    a. Harmful consumption and waste
    b. Conservation, thrift and charity
    c. Substitution ("oleo" for butter). Why?

Suggested Problems and Topics for Study

1. Use the index numbers of the cost of living in the principal cities of the United States to construct a graph for the city nearest your home. Monthly Labor Review; Fay: 45.
2. Obtain budgets in your locality of laboring, middle-class and well-to-do families and compare them with the conclusions made by Engel on family expenditures. Weld and Tostlebe: 23-27.
3. Obtain an expense book from your local banker and keep an expense account for your family or yourself for six months. Then set down in the spaces opposite the amount of money you mean to spend on each group. This will be a practical budget and will fit your needs.
4. What is a standard of living? Marshall, Wright and Field: 33-37
5. Compare the standard of living of a family in early colonial days with that of a middle-class family today. What outstanding differences do you find? How do you account for these differences? What conditions make for changes in standards of living? Wiese and Reticker: Modern Worker, 19-34, 287-300; Williamson: 29-41.

6. Lessons from forty years' study of cost of living. Weld and Tostlebe: 15-32
7. The problem of economic insufficiency. Wiese and Reticker: 265-287
8. Frugality and luxury. Bullock: **Readings**, 312-318
9. The practice of thrift. Williamson: **Readings**, 509-512
10. As means for saving, study the following: postal savings system; savings departments of banks; building and loan stock; endowment insurance; and corporation stocks and bonds. Keister: 426-435
11. Is installment buying of personal property, as practiced in the United States both socially and economically desirable or does it do more harm than good? Current magazines
12. Topic for debate: Resolved that installment buying is socially beneficial.
13. Bring to class advertisements which you believe are: economically beneficial; a social waste. What contribution does truthful advertising make to the welfare of society? How does advertising create wants?
14. Topics for special reports: Relation of advertising to consumption; charity institutions; unwise consumption.

References

Bullock: Selected Readings in Economics, 312-324
Burch: American Economic Life, 1-6, 39-55
Chase: Your Money's Worth. (Evils of advertising)
Duryea: What to Know About Life Insurance
Fay: Elements of Economics, 25-91
Hepner: The Good Citizen, 142-160
Hughes: Problems in American Democracy, 196-207, 210-213
Hughes: Fundamentals of Economics, Ch. XV
Keister: Our Financial System, 308-331
Lapp: Economics and the Community, 3-30
Marshall and Wiese, 223-260
Marshall, Wright, and Field: Materials for the study of Elementary Economics, Ch. II
Riley: Economics for Secondary Schools, Ch. III
Weld and Tostlebe: A Case Book for Economics, 3-28
Williamson: Readings in Economics, 500-529
Wiese and Reticker: The Modern Worker, 19-34, 265-300

C. Production

1. Organization of industry
    a. Historical background
    b. Single entrepreneur
    c. Partnership
    d. Corporation
    e. Cooperation
    f. Government operation
2. Factors of production
    a. Entrepreneur
    b. Land
    c. Labor
    d. Capital
    e. Community
3. Large scale production, combination, monopoly
4. Division of labor
5. Marketing and business cycles
6. Transportation

Suggested Problems and Topics for Study

1. Assume you are going into business with some one individual. Prepare a contract for the partnership. Suppose you desire to incorporate your business; point out the difference in the type of organization. Marshall, Wright, and Field: 233-236; Fay: 104, 113
2. What are the aims of cooperation? In what respect is a corporation a mode of cooperation? Williamson: 295-310; Tufts: Ch. XVI
3. Survey your county for types of cooperative associations. What advantages and disadvantages do you find in these associations?
4. What factors counteract the law of diminishing returns? Marshall, Wright, and Field: 74-77
5. Why do Montana farmers cultivate their land extensively? Weld and Tostlebe: 99-101
6. Explain the advantages which influence the localization of industry. Select an industry with which you are familiar and show the reasons for the division of labor. What are the limitations of the division of labor? Marshall, Wright, and Field: 181-182, 189-204
7. An example of the improved Ford practice in the division of labor through the use of the stop watch. Weld and Tostlebe: 158-162
8. Revery and Industrial Fatigue—An experiment in a textile mill. Weld and Tostlebe: 53-58; Marshall, Wright, and Field: 716-721
9. The origin of capital. Williamson: 151-152
10. How do producers forecast demand? Williamson: 157-159
11. How may a patent be obtained? Williamson: 251-253
12. Typical trust agreements. Marshall, Wright, and Field: 304-306
13. What are the conditions which lead to large industrial combinations? As a type case, study the Carnegie enterprises as they were developing into the United States Steel Corporation. Marshall and Wiese: **Modern Business**, Ch. XII
14. Illustrate the horizontal and vertical combination of industry from the standpoint of management. Taussig: Vol. 1, 64-68
15. Study the growth of mergers. Graph the increase in number and capital investment for the last five years. Current magazines
16. Study of "A Colorado Telephone Merger." Weld and Tostlebe: case 49
17. Fitting investments to the investor. Weld and Tostlebe: case 27; Keister: 280-288
18. Analysis of the market. Marshall, Wright, and Field: 349-351. Read and understand stocks and bond quotations in newspapers.
19. Varieties of marketing institutions and methods. Marshall, Wright, and Field: 245-262; Marshall and Wiese: 245-260
20. Study the organization, operation and service of the New York Stock Exchange. (Write to Committee on Publicity for pamphlet.) Keister Ch. XXI
21. What service does the middleman render in marketing? Greenan and Meredith: 352-362; Greenan: **Readings**, 332-341; Marshall and Wiese: 235-244
22. Cooperative marketing in Montana. Montana: 104

23. Make a study of the natural resources of your county or community. Study them from the standpoint of: (1) total production, (2) annual return, (3) marketing system, etc. Can you suggest improvements? County agricultural organizations: newspapers: Montana: Natural Resources and Opportunities edition. (Select)
24. Prepare a map of Montana showing one of the following: metal resources, wheat production, timber belts, petroleum production
25. Graph the value output of Montana's industries by decades from 1880 to 1927. Montana: 122
26. Take a representative shipping point from eastern, central or western Montana and compute the saving on the cost of transporting wheat to the United Kingdom and Europe, in cents per bushel, through the proposed Great Lakes-St. Lawrence Ship Canal. In what ways will the completion of this Canal affect markets for the people of Montana? What principle of transportation economics is involved? Weld and Tostlebe: case 46
27. Trace the development of transportation in Montana from the dog travois to the airmail. What are our most important transportation problems? Montana: 45-60
28. Organize a class discussion on one of the following questions:
    a. Is the expansion of chain stores detrimental to the best interests of the American people? Weld and Tostlebe: cases 36, 48; Radio talks; Current magazines
    b. Whenever possible should one buy from the neighborhood storekeepers?
    c. Should the State of Montana regulate the annual amount of oil extracted from each field within its borders?
    d. Should the United States government own and operate all railroads in the United States? Greenan and Meredith: 365-382
29. Make a study of the different forms of profit sharing. Burch, **American Economic Life**, 464-467; Fradenbergh, **Elements of Economics**, 92-93; Munro and Ozanne, **Social Civics**, 393-395; Williamson, **Problems in American Democracy**, 93-95
30. On what basis should railroads be evaluated for purposes of rate making? Marshall, Wright, and Field: 286-289
31. Select some one economic question and keep a scrapbook of clippings with appropriate comments; e. g., strikes, unemployment, public utilities, immigration, conservation of resources, forecasts of general business conditions, etc.
32. Topics for reports:
    - Water power in Montana
    - Division of labor in any local industry
    - Irrigation: Milk River and other projects
    - Tracing a shipment of wheat or other goods from your town to New York
    - Timber in the Northwest
    - Value of public markets
    - New York Stock Exchange
    - Biography of: James J. Hill; J. D. Rockefeller; and Henry Ford
    - History of: General Motors Co.; U. S. Steel; Standard Oil Co.
33. List the acts of Congress that have to do with regulating trusts. (Sherman Anti-Trust Law, Clayton Act, Federal Trade Commission, Transportation Act of 1920.) Study effects of each. What part does the United States Supreme Court play in regu-

lation of trusts? Burch, **American Economic Life**, 257-262; Fradenbergh, **Elements of Economics**, 246-262; Marshall and Lyon, **Our Economic Organizations**, 292-311.

34. What kind of an education would you recommend for an individual training for the work of a business manager? Be specific. Give reasons.

References

Burch: American Economic Life, 81-127, 180-197
Eldridge and Clarke: 72-98, 140-166, 232-255
Greenan and Meredith: 332-402
Hepner: 234-246
Keister: 137-183, 264-286, 394-418
Marshall, Wright and Field: 358-370. (Select)
Marshall and Wiese: Modern Business, 63-123, 223-260, 381-420, 453-478
Marshall and Lyon: Our Economic Organization, 207-227, 292-311
Morehouse and Graham: 192-206
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Munro and Ozanne: Social Civics, 323-336, 400-401
Rugg: An Introduction to American Civilization, Chs. VIII, XI, XXVI
Tufts: The Real Business of Living, 156-235
Weld and Tostlebe: 84-237
Wiese and Reticker: 76-119
Williamson: 147-159, 249-262, 295-307, 398-410

D. Exchange

1. **Principles of exchange**
2. **Primitive methods of exchange**
3. **Money**
   a. Functions of money
   b. Types of money
   c. Essential characteristics of money
   d. Coinage of money in U. S.
   e. Relation of money to price (Inflation and deflation)
   f. Relation of money to value of goods
   g. Relation of money to amount of goods produced
   h. Discussion of Gresham's Law
4. **Credit and banking**
   a. Early history of banking in United States
   b. Functions of present-day banking
   c. Kinds of banks in United States
   d. Clearing house system
   e. Bank legislation since 1863
   f. Federal Reserve System
   g. Relation of banking to modern business
   h. Credit as a part of modern exchange
   i. Functions, benefits and dangers of credit
   j. Relation of credit to modern business
5. **International trade**
   a. Characteristics of world trade
   b. Complicated processes involved in world trade
   c. Disorganizing factors of world trade
   d. Effect of tariffs on world trade
   e. The Merchant Marine and world trade
   f. Relation of World War to world trade
   g. Relation of world trade to world peace
6. **Tariff in the United States**
   a. Distinguish between a protective tariff and a tariff for revenue only
   b. Economic arguments for protection
   c. Basis of free trade

Suggested Problems and Topics for Study

1. Select articles from the daily newspapers illustrating the influence of demand and supply on price
2. Study the method used in finding the weighted average of index numbers. Graph the price indexes for the fiscal years, 1920-1930. Use wholesale and retail prices. Fay, 268. Monthly Labor Review. **World Almanac**
3. The origin of money. Williamson: **Readings**, 163-165
4. Outline briefly the monetary history of the United States. Keister, Part 1
5. Gold money as standard money. Keister, 17-32
6. Should the United States government adopt Irving Fisher's plan for stabilizing the dollar? Marshall, Wright, and Field, 474-479; Keister, 446-459
7. Obtain from your local banker a small denomination of each of the various kinds of American paper money in circulation today. Why do we have the different kinds of paper money that we do? Obtain from your banker a folder published by the federal reserve system explaining the basis for each of the issues. Keister: 60-67
8. The origin of banking. Williamson, 165-169
9. The importance of credit in modern banking. Williamson, 169-172; Keister: 79-88
10. Ask your local banker to prepare a list of summary statements of the services a bank renders to your community. Have him come before your class and explain how the bank performs each of these services.
11. Show by diagram the operation of a clearing house. How does the Federal Reserve System aid banks in your community in clearing out-of-town checks? Williamson, 182-184; Keister: 357-358
12. Show by diagram the organization and duties of the Federal Reserve System. Locate the federal reserve districts and cities in the United States. Faubel: 178-191
13. Has the United States tariff commission proven satisfactory in aiding congress with the tariff problem? Greenan and Meredith, 463-470.
14. Should the United States adopt a policy of free trade? Current magazines
15. Topics for reports: Description of U. S. Mint. International trade and good roads.
16. How will the changing value of a dollar affect investments? Fay: **Elements of Economics**, 294

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Faubel: 210-219
Keister: (Select)
Marshall, Wright and Field: 371-608
Marshall and Wiese: 303-336
Weld and Tostlebe: 238-266, 334-348
Williamson: 161-188, 425-453

E. Distribution

1. Nature and meaning of distribution
   a. Differences in wealth and income in United States
   b. Social problems arising from distribution

2. Rent-return to land
    a. Nature and source of agricultural rent
    b. Rents in city
    c. Relation of rents to profit
3. Wages-return to labor
    a. Non-competing groups of laborers
    b. Wages and efficiency
    c. Differences between real and money wage
    d. How are wages determined? Standard of living theory?
    e. Effect of rising profits to wages
    f. Unemployment when profits decrease
4. Interest-return to capital
    a. Reason for payment of interest. How is amount determined?
    b. Variations in rate. What is usury?
    c. Relation of interest to profits
    d. Relation between rate of interest and amount of capital available
5. Profits-return to enterprise and management
    a. What factors determine the amount of profits?
    b. Relations existing between wages, rent, interest, taxes, and profits
    c. What is the law of profits?
    d. What is the place of the business man in industry?
6. Labor problems
    a. Rise of organized labor
    b. Agencies for industrial peace
    c. Labor legislation—state and national
    d. Effects of foreign immigration
    e. Organized labor as an agency for relief in periods of depression
7. Proposals for reform. Name and discuss

Suggested Problems and Topics for Study

1. Some factors affecting land values in various selected cities of the United States. Marshall, Wright, and Field: 620-628; Bullock: 568-588; Williamson, **Readings in American Democracy**: 123-125
2. Graph the trend of wages (rates per hour) from 1908 to 1927. On the same graph show the price indexes for the same years. Compare labor's real income with wages. **World Almanac**
3. Show by table where the railroad dollar went for the years 1913 to 1927. Average each of the items for periods of five years and show by diagram or graph where the railroad dollar went for each of these periods. Compare this to a similar study showing where the United States Steel Company's dollar goes. Notice trends in the various items. **World Almanac**; Fay: 424
4. Show by diagram or graph the expenditures of gross income of a local utility.
5. To what degree should the government regulate profits?
6. Chart the organization of the American Federation of Labor. Obtain recent figures of membership and organizations. Marshall, Wright, and Field: 670 (drawing); **World Almanac**: (figures)
7. What are the purposes of the American Federation of Labor? Discuss and evaluate each of them. Marshall, Wright, and Field: 668-669

8. Make a survey of your state or community for types of labor organizations, number of members in each type. What portion of the laborers are organized? In what ways do these organizations benefit labor in your state or community?
9. Study the Workman's Compensation Act of the State of Montana. What changes in this act are proposed by the State Federation of Labor?
10. Are labor unions as now constituted detrimental to society? Greenan and Meredith: 437-455
11. The problem of unemployment and proposed solutions for the problem. Marshall, Wright, and Field: 709-715; Weld and Tostlebe: 139-150, 205-209; Wiese and Reticker: Modern Worker: 248-265
12. Should the several states enact legislation to provide for compulsory unemployment insurance? Monthly Labor Review
13. Debate—Resolved: That the employment of a married woman by any public officer in a case where her husband is able to provide for her should be forbidden in times of business depression; or, Resolved: That for equal service men and women should receive equal pay.
14. Should the five-day week become the standard in American industry? Current magazines
15. Should America adopt the "dole" system as practiced in England? Articles in magazines and papers.
16. Survey the community for types of labor organizations; number of members in each. Contrast working conditions in union and non-union shops. Make other comparisons.
17. What are the causes for the scarcity or abundance of labor? Carver, **Elementary Economics**: 171
18. What are the chief causes of differences in wages in different occupations? Ely and Wicker: 318; Carver, **Elementary Economics**: 268
19. What reasons does Adam Smith advance for differences in wages? Fradenbergh: **Elements of Economics**: 276-277

F. Public finance

1. Federal finance
    a. What limitations are placed on federal taxation?
    b. What are the various kinds of federal taxes?
    c. What is an excess profits tax? Bullock, **Introduction to Study of Economics**, 550-559, 577-581
    d. How are federal expenditures regulated?
2. State finance
    a. Source of state taxes in Montana
    b. Difference between real and personal property
    c. Study of state expenditures
3. Local finance
    a. Duties of assessor
    b. Meaning of the terms: assessed valuation, taxable valuation, equalization, limitation on taxing power, public purpose of taxes
    c. When and to whom are taxes paid?
    d. How is an automobile license secured?
    e. What proportion of taxes paid are used for local (city or town), county and state purposes?

4. Principles and theories of taxation
    a. Justification for taxes
    b. Qualities of good taxes
    c. Differences between faculty (ability) theory and benefit theory of taxation

Suggested Problems and Topics for Study

1. What are the defects of the American taxation system? Williamson: 455-456
2. Fundamental principles of taxation. Greenan: **Readings**, 379-386
3. Graph, if possible, the city, county, and state tax rates together with the proportion spent for such purposes as highways, education, charities, general government, etc.
4. Graph the income returns for your city or community for the last five years
5. Graph the percentage spent for the major items of expenditures for the last five years
6. Learn the assessed valuation of your house, farm, or district, and compare it with actual or real value
7. What percentage of the federal revenue was received from the state of Montana last year? What percentage of federal appropriations made to the states did Montana receive last year? Make comparisons with other states. **World Almanac**
8. Should the present form of general property tax be discredited?
9. Should the government prevent great extremes of wealth and poverty by means of income and inheritance taxes? Greenan and Meredith: 379-386
10. What is the extent to which certain kinds of property are exempt from taxation? Fradenbergh: 337-338; Hughes: 559
11. Give the arguments for and against the single tax plan
12. What has been the place of free land in United States history?
13. What principles of fair dealing do you get from a study of principles of taxation? Bullock, Introduction, 541-549; Burch, **American Life**, 390-392; Faubel, **Principles of Economics**, 348-353, 362; Hughes, **Problems of American Democracy**, 553; Lapp, **Economics and the Community**, 298, 302, 303; Munro and Ozanne, **Social Civics**, 450, 455, 459
14. Tell the story of the rise of one captain of industry: i. e., Carnegie, Rockefeller, Morgan, Vanderbilt, Mellon, Armour, or Ford.
15. How much would your taxes be on a house and lot worth $7000? How much would be paid to the state? to the county? to the support of the public library? for fire protection? for school?
16. Construct a diagram showing what you consider a wise distribution of expenditure for the federal government, the state government. Justify your distribution.

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PART EIGHT—SOCIOLOGY

I. Introductory Statement

The study of sociology should give our young people a sound and steadying philosophy of life, by acquainting them with materials from which they can construct this philosophy for themselves. "The prevailing confusion, uncertainty, and misguidance as to the really worthful ends of existence constitute the gravest social problems of our age. A sound and credible philosophy of life is the deepest need of most young persons. A good deal has been written lately about the alleged moral debacle in the younger generation. So far as there is any cause for alarm, we of the older generation have ourselves to blame for failure to transmit to them a moral philosophy of life that they can really believe, and that is workable and steadying."* A course in sociology should present the student with material out of which he can construct such a philosophy of life for himself.

Students should come to realize that the institutions of society are made for man, not man for the institutions. Students should learn that the welfare of human beings is the end of all social regulations and that this is the criterion by which all social processes are to be judged, that the welfare of the masses is the best interest of all concerned; that "Man liveth not to himself alone." They should come to appreciate that social institutions are not static; that they are constantly in process of change; that these changes constitute the law of progress. Pupils as well as older members of society fail to grasp this idea. Sociology should teach students to adjust themselves to changes which are occurring constantly. The ability to do this is one of the marks of an educated mind.

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*Finney, P. V., Elementary Sociology, Benj. H. Sanborn and Company, Chicago

From a study of sociology the student should gain a knowledge of the biological, geographical, technical, and social causes of the origin, development, functions, and shortcomings of social activities. Since man's activities are more or less institutionalized the student should realize that the institutions of society are largely made up of states of mind, and that a social change is a change in the social mind. "There is no theory of the meaning and value of events which man is compelled to accept, but he is none the less compelled to accept the events.*

The high school student should gain his social concepts from a study of social institutions, such as the family, the community, including the state, school, morality; and then pass on to a study of the more abstract social relations, as social control, social conflict, and social organization. The student who knows what the family and the school contribute to the welfare of mankind is in a position to understand and appreciate the social service he himself renders when he takes his place as a normal part of the institutions of society or the harm he does to society in failing to function normally in his social relationships. If society could be depended upon to function normally, social problems would take care of themselves.

Living as most humans do today in a world in which commercial values absorb them, the student should be taught to stress commercial values as anything but ends in themselves. Sociology shows him "as no other study does, the true relation of the individual to the public, of folkways to stateways, of liberty to command, of education to coercion; and their normal limitations by one another."** Sociology directs attention to the whole scheme and range of values, and convincingly exhibits the subservient relation of commercial values to human or spiritual values. It brings to our notice the variety and vitality of spontaneous and customary ways of collective action, and shows us the relation of these folkways to stateways, of voluntaristic to authoritative methods of trying to achieve desired ends. It exhibits the relations of direct action to an evolution which proceeds through an investigative and constructive trial and error. By concrete evidence it corrects an untutored view of ways and means. "Sociology calls our attention to (human) values, asks our serious consideration of them, and incalculably multiplies our intellectual reactions to the age-long struggle for a worthwhile human existence."

The emphasis in the teaching and study of sociology should be on social relationships and not on social problems. Too much emphasis has been given in the past to the discussion of social problems. Social anatomy, physiology, and hygiene should be stressed instead of such social problems as poverty, crime, divorce, and other social disorders. Emphasis on such subjects is apt to have a morbid effect upon the minds of young people, and teaches them to be agitators, radicals, and "reformers". Sociology should help to build up social integration, instead of making for social disintegration. "Sociology should be a study of how to promote the good as well as how to combat the evil. The aim of the sociologist should be to secure social improvement—to attempt to point out how to develop social health and how to cure social ills. The interdependence of members of society must at all times be kept in mind."**

State departments of education and authors agree that sociology should be placed as near the end of the school course as is possible. One author gives as the reason for this: That all knowledge gained by that time may be brought to bear on this most important of all parts of a liberal education. The social environment of the students offers many concrete realities by which principles set forth in the texts can be illustrated. The factual materials make social facts real and vital. The principles set forth in texts can be made concrete through a study of local realities.

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*Walter Lippman, Preface to Morals, p. 9. The Macmillan Company, San Francisco, California

**Dawson, Teaching the Social Studies. The Macmillan Company, San Francisco, p. 249

II. Aims

A. General

1. To lay a foundation of sound citizenship by studying the fundamental social institutions: Family, school, and state
2. To develop a realistic and sympathetic attitude toward the social order, to the end that the individual may function intelligently and effectively in evolving society

B. Specific

1. To present material by means of which the student may form a philosophy of life
2. To give the student an understanding and appreciation of:
   a. Social services he renders in each institution of society
   b. Harm he does in failing in his normal relationships
3. To develop correct social habits
4. To understand current social problems and conditions as they exist in the world today
5. To explain social institutions
6. To train for social leadership and followership
7. To predict social trends
8. To develop faith in human institutions and progress
9. To develop broadened sympathies, and to make the world a better place in which to live for the less fortunate
10. To develop a highly critical attitude toward panaceas, uplifts, and reform movements

III. Attainments

The course of study in Sociology is planned for a semester's work in the senior year and its completion entitles the student to one-half unit of credit. (See Attainments in the Economics Course of Study.)

IV. Teaching Procedure

A. General procedure

1. General view of course
   a. Objectives
   b. Main items and their relations
   c. Contributions of each item to main objectives
2. Development of proper work procedure for pupils by teaching them to:
   a. Read entire assignments for general view
   b. Study and master specific content
   c. Discriminate in regard to sources
   d. Use references and citations systematically
   e. Evaluate their own achievement in terms of the objectives and standards

3. Class activities
   a. The informal talk
   b. The oral quiz to test preparation
   c. Free class discussion of questions suggested by pupils
   d. Brief reports on special topics and assigned readings
   e. Frequent brief themes and a term paper
   f. Talks by local or available social or industrial leaders
   g. Making of family monographs to bring out biological and psychological factors shaping social life
   h. Community survey—concrete problems of contemporary social life with which students are familiar; visits to club meetings, factories, etc.

A course in sociology should serve to stimulate the student's interest in the social life about him, and should, therefore, deal with much contemporary material. This will be found only in magazines, reports of the governmental and private social agencies, etc. Through the study of specific problems and concrete cases which are of immediate interest to him the pupil may learn to better understand people whose lives are different from his. Sociology lends itself naturally and admirably to the socialized recitation. Short, spirited debates arouse interest and cause the student to form conclusions which he will apply to his own conduct. Question lists should be an important part of a course in sociology. Problems should be suggested and textbook material should be made use of in solving these problems.

B. Suggestions for conducting the course

1. Textbooks

A list of suitable texts for sociology is given in the bibliography. A questionnaire sent out to Montana high schools offering sociology courses during the school year, 1930-31, revealed the fact that no one text was generally favored as a classroom text, but that there were several texts which were used rather widely over the State. Due to the use of outside material from magazines, the press, and other contemporary sources, it may not seem advisable to follow the order of any textbook or to confine the work in the course to the subjects treated in any one text. Local conditions may offer problems which are peculiarly adapted to study.

2. Reference material

The problem of providing reference and supplementary material for sociology, as for all the social studies, is a continuous one. The departments of literature and social studies are the ones which call for most frequent additions to the departmental or school libraries. The above-mentioned questionnaire which called for a list of reference material in use in schools offering sociology disclosed the fact—if the lists given are to be taken as more or less inclusive—that schools have not as yet collected a very comprehensive selection of reference material for sociology. It must be borne in mind that much valuable material for sociology is to be found not only in books but in magazines, newspapers, institutional reports, government pamphlets, and other such sources. Any list of references which may be published for this subject is soon out of date. The Historical Outlook—the official organ of the National Council of Social Studies—contains much valuable information on new publications in sociology, as well as concerning developments in this field. The Literary Digest, World's Work, Outlook, Independent, farm magazines, and daily papers were those listed most frequently in the questionnaires. Some schools offering sociology evidently depend entirely on contributions by students and teachers of articles found in newspapers and magazines, and have no definite amount or kind of reference material for sociology, not even reference texts. This is conducting a sociology course without very necessary equipment. One school reports that it subscribes for a daily paper and five current magazines. This is making a definite effort to supply necessary and up-to-date material.

3. **Notebooks**

Notebooks are not generally required in sociology, according to the questionnaire. It seems to be generally agreed that textbooks are well outlined, with questions at ends of chapters. A substitute for outlined notes in some schools is the scrapbook, containing newspaper clippings, magazine articles, and pictures. In this way, the student's interest in contemporary material, movements, and problems is stimulated. This method should lead to an interest in the important developments of the day. In those schools in which notebooks are required it is for the purpose of outlining outside readings or to record answers to daily written assignments.

4. **Term paper**

A term paper is an excellent idea for work in sociology. This gives an opportunity to each student to choose some one subject and to carry on research work in the subject. This type of study is of more value in sociology than the keeping of a notebook.

5. **Reports**

Due to the fact that much material for sociology must be obtained from magazines, newspapers, reports, and other sources of contemporary material, sufficient copies of which are usually not available for every member of the class, it is a good idea to require oral reports, sufficiently long to develop the subject—three to five minutes—on a subject in which the pupil is interested, every two or three weeks, depending upon the size of the class. Care should be taken, however, that these reports do not degenerate into mere current events reports. After the oral reports have been given the class may engage in a discussion of points brought up which particularly interest any of the members. This method adapts the work to the individual student, gives the superior students material and opportunity for their interests, and stimulates the interest of the other students in the subjects discussed; it also helps the students to formulate convictions on certain subjects, to understand current trends, ideas, and theories, and to dissipate narrow, prejudicial, denominational and contentional ideas on social problems. The exchange of ideas made possible with the report method leads to more tolerant, considerate, and agreeable ideas on existing social facts, and attitudes toward fellow students and in later associations in life. This method is valuable also in exposing the radical extremes in looking at social questions. It teaches the students to find the most practical solution of various social problems and to disregard personal opinions in favor of facts.

6. **Supervised study**

Sociology offers an excellent field for supervised study. It gives the individual student an opportunity to obtain help in following up subjects in which he is most interested and makes it possible for him to obtain the suggestions he needs for finding this material. This directed study is especially necessary and helpful in schools which have a limited supply of reference material.

C. How to present each unit

1. Develop bibliography, utilizing all available sources.
2. Direct pupil's activities by means of guidance outlines (Those given in this course are to be taken as merely suggestive. If they are used they should be modified and amplified in terms of the unit to be covered and material available.)
3. Sketch the content of each unit, to direct the attention of the pupils to the important problems and to the relation of the unit to what has preceded and to what is to follow. The material available will have considerable bearing on the manner in which the subject is covered.
4. Provide the pupils with a minimum list of standards and specific activities. A suggestive rather than an exhaustive list is given in this course.
5. Select fundamental concepts for permanent retention. Provide drill materials for the maintenance of these concepts.
6. Formulate objective tests over the unit.

D. Suggested outline for a problem

The race problem has been chosen for a suggested outline. This subject is one on which there is much available material, and one which has several phases—some of them with decided local applications—which bring the subject within the range of the experience of all students in the class. The outline is merely suggestive, however, and may be modified so as to include activities of more vital interest to the students if these should present themselves. Using the outline as a model, similar outlines may be worked out for any of the other units to be taken up for study. A specimen problem unit follows:

The Race Problem

Assignment I

To understand the social significance of different races to society

Class activities

1. Note the various races in society, past and present
2. Discover racial composition in the United States from census reports, making a spot map showing the concentration of races in different parts of the United States
3. Point out problem of native ability versus environment in discovering racial differences
4. Point out elements that tend to preserve races widely spread out geographically
5. Account for differences in language, religion, methods of livelihood, etc.
6. Consider possibilities of amalgamation

Achievement

1. Appreciation of race problems
2. Appreciation of the importance of environment on racial trends

Assignment II

To understand the position of the Negro in the United States, trace the history of the Negro problem in the United States to the present time

Class activities

1. Trace the geographical spread of the Negro race in the United States
2. Review the slave trade
3. Note the progress made by the Negro in the past two centuries
4. Note the population shifts of the Negro
5. Develop the political status of the Negro to the present time
6. Consider the economic phases of the development of the South in its relation to the Negro
7. Discuss the civic and economic progress of the Negro in comparison with his social progress
8. Study Negro characteristics
9. Outline Negro problems, as:
   a. Crime and pauperism
   b. Industrial problems
   c. Education and leadership
   d. The solution

Assignment III

To study the problem of the Indian and his relation to the white man

Class activities

1. Study early history and civilization of the Indian
2. Trace development of a definite governmental Indian policy
3. Review the history of the Indian Bureau
4. Discuss moral obligation of the government to atone for past wrongs to Indians and to make every effort to protect Indians from further infringement of their rights

Assignment IV

To understand the significance of the Yellow Race Problem in the United States

Class activities

1. State the attitude toward the Yellow Race in this country
2. Discuss the part prejudices, jealousy, and ignorance have played in this problem
3. Explain the bearing of the Exclusion Act on the presence of Chinese in this country
4. Discuss characteristics of the Japanese race
5. State the problem in connection with California land-holding
6. Note occupations of Japanese, Chinese, and Koreans in United States
7. Make a study of the policy of sending Japanese and Chinese students to the United States

Assignment V

To understand race and race problems in the United States

Class activities

1. Explain the significance of the term "The Melting Pot"

2. Discuss the social and other disadvantages of the immigrant and his children. What is race prejudice?
3. Make a study of the sociological aspect of racial crossing; eugenic aspects of immigration
4. Prepare a list of immigrants who have succeeded in adapting themselves to our civilization

V. Content—Current Problems of Society

A list of problems, with suggested topics, follows. This list does not follow the arrangement of subject matter of any one textbook and to properly cover any one of the topics or units listed it will be found necessary to consult more than one text. In many cases it will be possible to combine problems. Often the text or reference material available will determine such combinations. Some of the problems listed may have been treated fully in another high school course, thus making it possible to omit these problems and to study others more intensively. For this reason, no time allotment has been given for any unit. If students have had work in social studies in the elementary grades and junior high school it will become necessary to adapt the selection of problems to the previous training of the students.

1. **The family**

   The family as the basic institution of society. The primitive family. Forms of family life. Functions of the family. Family responsibilities increasing in modern life. Influences affecting family life.

2. **Human society**

   Origin, development, social adjustments. Social progress. Lessons from the past. Present status.

3. **The home**

   Trace transformation which has taken place in the home due to change in industry. Advent of women and children into industrial life. Results of women leaving the home to go to work. Compare home of a century ago with modern home. Married women in industry. Percentage of women in industry. Problem of women's relation to industry.

4. **The community**

   Define term. Social function of primary groups. Reasons for various forms of activities in community life. Social influences upon community life. Functions of a community group: happiness, cooperation, etc. Problems of: village communities, rural communities, urban communities. Account for rise of "service clubs" in recent years. Wholesome community interest. Cite examples of community life. See Problems, Finney, Elementary Sociology, p. 177.

5. **Rural communities**

   This subject should receive much emphasis in Montana high schools. Develop fundamental facts of country life, its past and future aspects and possibilities. This is a subject of which the student should have a broad knowledge and understanding since he will always have some contact with this kind of life.

6. **Growth of cities**

   Reason why cities are attracting population from rural communities. Responsibility of education for this movement. How may the movement be counteracted? Discuss cities as "melting pots". How do city-bred people differ from country-bred people in: aims of making a living; health; thrift; standards of living; character, etc.? Foreign-born in cities vs. foreign-born in rural communities.

7. **Industry**

   Problems of industry. This subject belongs to economics but should be taken up in sociology, as well, since problems of industry complicate social relations. The subject should be covered in about three lessons—to cover elementary problems.

8. **Labor and labor problems**

   Organized and unorganized labor. Rights, claims, and problems of American wage earner. History of labor unions, strikes, lockouts, etc. Unemployment problem.

9. **Labor-capital struggle**

   Disturbing influences in industrial life of our age: increase of power machinery; mass production; business combinations; struggles between union and non-union labor; increasing numbers of employers and employees; unemployment.

10. **Machine process**

    Meaning. Problems arising from increasing use of machinery in production. Bearing on unemployment. Effect of unemployment upon social conditions. Remedies for unemployment. Effect of machine processes on efficiency of labor. Leisure and luxuries for laborers. Corporations and monopolies resulting from business processes.

11. **Natural resources**

    Effect of presence or lack of resources on life of a community. Effect of changing frontier on social, business, and political life of country. Kinds of natural resources; waste of; social significance of. Conservation as a practical national ideal. Reclamation as a part of conservation. Economic loss through unproductive lands. Relation.

12. **Poor relief and other welfare problems**

    Means of relieving distress of poverty. Discuss almsgiving, charitable societies, scientific giving. Preventives: industry; public health; public education; thrift; public improvements. Delinquency: efforts to combat. Organizations. Study of crime in its relation to welfare problems.

13. **Public health and sanitation**

    Health of rural and urban population. Relation of health to economic conditions. Influence of knowledge of health popularized by the war. Study of health and sanitary measures.

14. **Social control**

    Social control over the individual. Regulative institutions of human society: government, law, religion, education. Study religion as one of the oldest means of control in human society. Education as a method of social control.

15. **Social progress**

    Determining factors. Various theories: geographic, biological, economic determinism, ideological, sociological. Education as a method of progress in human society. Necessity of controlling education.

16. **Social mind**

Meaning of the term. Discuss the statements: "The all important fact in this world is that men grouped in an industrial or a political organization behave as they would scorn to behave as individuals." "Ordinary morality is suspended by some higher law of national or economic interest." Ideals contributed to civilization by various peoples and nations. Explain mental harmony of social groups. Discuss patriotism in time of war. Popular fallacies. Popular enlightenment. Formulate sound ideals of an age. Discuss education for followership and leadership. Mental harmony as a requisite of social life. Education as a defense against propaganda, fads, mental epidemics.

17. **Child welfare**

This subject should receive considerable attention. The future of the nation rests on its children. Trace history of child labor. Factors in society responsible for child labor. Need to protect children. Society's responsibility for welfare of children. Legislation.

18. **Social defense against crime**

The expense of crime in civilized life. Means of lessening crime. Our methods compared with those of foreign nations. Three methods of dealing with crime: preventive, reformatory, and punitive measures. Immediate measures. Part of home and education in governing, in preventing crime; in future generations. "Crime Waves".

19. **Poverty**

Study conditions of poor in past centuries. List causes of poverty. Extent of poverty, effects of. Trusteeship of wealth. Public measures by which poverty may be reduced. Doctrine of waste. Education of masses as a remedy.

20. **Standard of living**

Define. What determines standards of living? Discuss methods of raising standards. Effects of raising standards of living. Standard of living as a eugenic factor. Make study of standards of living of different groups if possible. Show how high standards of living are an outgrowth of industrial civilization. Effect of standards on instability of family. Relation to age of marriage. Standards among native whites vs. among foreign-born.

21. **Education**

Purpose of education; growth of public education. Function of state in education. Control of schools. Work of national government in education. Vocational education. Rank of Montana in educational opportunities. Statistics of elementary, secondary, and higher education. Rural education. Social function of education.

22. **Leisure**

Trace growth of. Make a study of work hours per week in different lines of employment. Shorter working day. Annual vacation—a recent institution. Recreation as an outstanding problem of present day society. Leisure time activities; commercialized amusements. Rural, urban amusements. Value of play. Education for leisure. Suggestions for a rural recreation program. Discuss: "An idle man's brain is the Devil's workshop." "A civilization may be gauged by its popular amusements."

23. Public opinion

Public opinion as a means of control. Effect upon morals, laws, voting, control of government. Relation to self-respect. How public opinion may be improved. To what extent may public opinion be relied upon? Discuss: "Progressive social changes are gradual processes brought about by public opinion."

24. Freedom of speech

Why does the Constitution guarantee rights of freedom of speech and of the free press? Value of public discussion. Academic freedom. Can freedom of speech be abused? Treason in time of war. Supreme court decisions holding that speech may be so offensive as to be unlawful.

25. Divorce

Percentage of divorces increasing. Causes and remedies. Laws. Need for higher ideals of marriage. Factors which make for attractive married life or the reverse.

26. Religion

Religion as a substitute for law in Middle Ages. Influence on forms of family life. Influence of social life upon religion. Influence of religion in urban life to today. What do you understand by a social religion? Religion as a means of social control. Function of religion in motivating moral behavior. Difference in religion of faith and religion of behavior.

27. Morality

Discuss "A socialized education means moral education." Why must morality be approached through social sciences? Define ethics; morality. How do you account for the evolution of morality? Discuss morality from sociological point of view vs. religious or metaphysical viewpoint. Influence of moral ideas and ideals on social relationships. Increasing need of high moral ideals with growing complexity of societies.

28. Caste system

Explain terms: caste; society; "open society". Present-day tendencies. Equality of opportunity. Average intelligence of social classes as compared with social status. Class prejudice as an obstacle to social progress. Means of increasing equality of opportunity.

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PART NINE—PSYCHOLOGY

I. Introductory Statement

The high school years comprise perhaps the most difficult portion in the formative era of the individual's life, namely, the period of adolescence. For some years, education has been urged along the lines of adjustment to life situations. Inasmuch as psychology has been the basis for many achievements in adjustment, it seems that the argument for teaching psychology in the high school, as well as in the college, is a valid one. When one considers that the majority of high school students never attend college, there appears to be a very definite reason for high school instruction in a science of human nature.

II. Aims

The returns from a questionnaire, sent to the teachers of psychology in the high schools of Montana during 1930-31, indicated the belief that in general the objective of the course is to teach the practical application of the principles of psychology. With this in mind, reflection concerning possible aims to be realized results in the conclusion that the study of psychology as an application of principles to life situations must bring about an intelligent attitude toward human behavior, or a new attitude on the part of the student, toward himself and others, based on understanding of human nature.

III. Attainments

A further analysis of objectives reveals a more specific group of attainments to be desired. Briefly stated they are:

A. A better understanding of self for the purpose of promoting confidence and stability of character

B. An interested and sympathetic attitude toward one's fellow men, resulting from a study of human nature

C. An intelligent attitude toward the problems of life, including consideration of the fundamental facts of mental hygiene and the selection of a vocation

IV. Units for a Course of Study in High School Psychology

With these objectives in mind, seven units have been planned for the course. While these are not arbitrary they may form a basis for the planning of a course of study. The units are listed below:

A. How scientific study helps one to understand himself and others
B. How mind and body work together to produce human nature
C. A study of the ways in which habits are formed and their influence in one's life
D. Developing economical methods of study and work
E. Motivation and adjustment in human life
F. Personality and its relation to efficiency
G. Psychology applied to life situations

V. Time Allotment

The teachers of the state seem to be generally agreed that the time allotted to the course should extend over a period of eighteen weeks and that one-half unit of credit should be granted for the course.

VI. Procedure

In no sense of the word is psychology simply a textbook course. The study functions only insofar as it can be applied directly or indirectly to the experiences of the students. Morrison states that the learning process in the science type is essentially rationalization and reflection upon experiences.

Usually students expect the study of psychology to answer many questions that have been perplexing them, and these questions do not always belong strictly within the realms of scientific research in the course. While the teacher is advised not to broaden the field to take in too many phases, he frequently has occasion to render assistance in clearing away perplexities and false notions based on tradition and superstition rather than on scientific data. One of the greatest aids to the course is a supply of readable material, dealing with the essentials of psychology, and with the application of psychology in the vocational realm. Not only is it important that this material be available, but incentives to read must be provided. An outline for study, suggestions for experiments, problems relating to common experiences, and incidents from the lives of the students themselves will help to furnish these incentives. In the units outlined references are frequently listed. At present there appears to be no text on the market that satisfies the needs of a high school group. The material for the following units has been taken from no one book, but it has been gathered from a number of texts. Owing to financial limitations, many schools will probably not be able to have the more or less complete list of books listed in the bibliography. Other material, found by instructors in various schools, will need to be brought into use. Wherever possible the books listed in the returns from the questionnaire were considered. Some of the texts mentioned by teachers in the questionnaire were not available, and have not been listed for that reason.

The use of experiments and observations cannot be urged too strongly. Students grasp the principles much more quickly if they perform a practical experiment than if they simply study a book. While the teacher must rely on himself and the immediate surroundings for much of the equipment for experiments, a number of texts do furnish suggestions for laboratory work, and there are a few laboratory manuals. A wealth of material may be secured from magazines. Magazine cover pages, advertisements, pictures, popular essays, biographical material, fiction, etc., will often suggest applications of psychology.

The units are prepared with the idea that students will spend some time in class research and experimental work. While it may not be possible for all the topics in each unit to be covered, many of them may be considered in special reports. The teacher will have to take into consideration the reading facilities provided by the school, as well as the background of his pupils. While the course should not be too technical, it seems necessary to include a certain amount of theory. If biology has been a prerequisite, the physiological side of the study will be very simple. At any rate, the unit on the physical basis of psychology has been prepared with the idea of building a necessary but not too technical background for the student.

Quite early in the course, the teacher should definitely plan with the class the work on the special individual reports listed under Unit VII, Psychology Applied to Life Situations, q.v. It will be remembered that no course can be planned by one teacher and followed exactly by another. Training and experiences make for varied ideas and methods. This outline may serve as a guide; that is all that is to be expected. It is for the teacher of each class to build an outline for the subject that will meet the needs of his particular group. If this outline serves as a basis on which to build, and will aid in bringing together a group of suggestions that will, in a measure, unify the course, it will have served the purpose for which it was written.

Units for a Course of Study (in detail)

I. How Scientific Study Helps One to Understand Himself and Others

Before taking a course in Psychology most students have only a vague idea concerning the subject matter and the purpose of the subject. It is therefore important that there be an introductory unit. Introductory chapters and prefaces in the available psychology texts should be read and discussed. Wherever possible, illustrations should be drawn from experiences and observations of the students themselves. By the time the student has completed his reading and taken part in the class discussions he should have grasped the idea of what psychology is; he should have a preliminary knowledge of the uses and applications of psychology; and he should be aware of the methods of study used in the science. Back of these objectives the teacher will have still one more purpose, namely, to arouse interest.

A. Outline for study

1. **The subject matter of psychology**
    - a. Human nature
        - (1) Normal adult
        - (2) Child nature

    - (3) Abnormal conditions
    - (4) Animal Life
  - b. The work of the class should show how each of the above factors may contribute to the knowledge of the science

2. **Why people should study psychology**
  - a. Find all the reasons given in the various texts. Students should give specific cases which they have observed where a knowledge of psychology would have been useful.
  - b. Reasons for its study
    - (1) Psychology helps one to understand one's self
    - (2) Application of the laws helps one to get along with other people
    - (3) People learn how to solve many of their problems
    - (4) It teaches how to learn
    - (5) Psychology is important for the practice of medicine
    - (6) It is useful for the practice of law
    - (7) The business man needs a knowledge of psychology
    - (8) The minister needs a knowledge of psychology

3. **Suggestions for studying psychology**
  - a. Reading lives of great men
  - b. Studying history of the human race
  - c. Study of abnormal individuals
  - d. Consideration of many popular opinions about human nature
  - e. Observation of the conduct of others in every day life
  - f. Performing experiments in the laboratory
  - g. Giving concrete examples where these methods might be employed

B. Pupil activities

1. Before doing any reading write on the topic "What Psychology Means to Me". Include a statement of what you hope to gain from a study of the subject.
2. After discussion of these papers, read the material in at least two books. A summary of the reading may be prepared to cover the main topics of the above outline. Other topics of importance may be included.
3. Prepare a brief statement of the meaning of psychology
4. Explain what is meant by the statement "We study psychology so that we will know how to get along without so much studying."
5. State five truths about human nature with which people are familiar whether they have made a study of psychology or not.
6. Why does a business man mark an article for sale at $3.98, instead of at $4.00?
7. Find four advertisements that have been prepared to appeal to four different types of people. Point out the elements in each advertisement that indicate a knowledge of the likes or dislikes of the type.
8. Why is it well that psychology is not based entirely on self-observation?

C. References

Robinson: **Practical Psychology**, Chapter 1
La Rue: **Psychology for Teachers**, Chapter 1
Morgan and Gilliland: **An Introduction to Psychology**, Chapter 1
Phillips: **An Elementary Psychology**, Chapter 1
Gates: **Psychology for Students of Education**, Chapter 1

II. How Mind and Body Work Together to Produce Human Nature

Inasmuch as human nature has a physical basis it seems advisable to explain those factors which will be of assistance in understanding the future problems in psychology. This unit has been prepared with the belief that the understanding and appreciation of the study must have for its foundation a knowledge of the structure and operation of those organs of the body, chiefly the nervous system, that play the most important part in the mental life. Closely related to the study of the structure of the nervous system is that of the sense organs and their functions. This naturally leads to a consideration of perception. In view of the fact that heredity and environment play such important parts in the behavior of the individual, they are included in the unit.

A. The objectives given below have been selected with the above point of view in mind

1. Practical knowledge of the structure and function of the organs chiefly concerned with the control of one's behavior, namely, the structure and functioning of the nervous system and sense organs
2. Understanding of the ways in which the sense organs help one to interpret and appreciate the environment
3. Consideration of those factors in heredity and environment that have to do with the behavior of the individual

B. Outline for study

1. **Comparison of body functioning with city management:**

   In a city all departments are subject to the city government, in the body all systems are subject to the nervous system.

2. **The nervous system**
   - a. The brain—the chief member of the most important body system, i. e., the governing system, the steering system, or the chief operator
     - (1) Structure
       - (a) Cerebellum or small brain
       - (b) Cerebrum or large brain
       - (c) Medulla or first enlargement of the cord
     - (2) Appearance
     - (3) Function
   - b. Spinal cord
     - (1) Structure
     - (2) Function
   - c. Reflex actions
     - (1) Winking, sneezing, coughing, swallowing, etc. The reflex act is the simplest form of adjustment involving the nervous system
     - (2) Parts of a reflex
       - (a) Sense organ—the nerve end which receives the impression from the outside world
       - (b) Sensory neurone—the nerve fiber carrying the impression from the sense organ into the nerve center. This may be called the switching station to the muscle. Such a fiber is called a motor fiber.
       - (c) Nerve center—the central switching station

        (d) Motor neurones—the nerve fibers, carrying the impression from the sense organ into the nerve center. These may be called the switching apparatus.
        (e) Muscle—which acts according to the impulses received through the motor nerve fiber. (See Morgan and Gilliland, page 43)

d. Pupil activities:
    (1) If the right side of the head is injured, why may the left side of the body sometimes be paralyzed without affecting the right side?
    (2) Name the following acts which are reflexes: jerking the hand from a hot stove, throwing water on a fire, picking up a pin, running from a large beast, sneezing, spitting out a bitter substance, laughing at a joke.
    (3) Define the following terms: cell body, axon, synapse, dendrite, nerve, central nervous system, reflex arc, ganglia.
    (4) What would happen to a person if his nerve impulses always took exactly the same route through his nervous system?
    (5) What is a conditioned reflex?
    (6) Draw a diagram of the reflex arc. Explain.
    (7) Draw a diagram of the brain locating the three main divisions.
    (8) What is meant by the autonomic nervous system? Which acts does it control? (Morgan and Gilliland, page 38; Gates, page 160)
    (9) How may a centipede continue walking even after it has been cut in two?
    (10) How may people retain their enthusiasm? (Phillips, Ch. VI)

e. References

Robinson: Practical Psychology, Chapter II.
Morgan and Gilliland: Introduction to Psychology, Chapter II.
Gates: Psychology for Students of Education, Chapters II, III, VIII, page 160.
Phillips: Elementary Psychology, Chapter VI.
La Rue: Psychology for Teachers, Chapter II.
Halleck: Psychology and Psychic Culture, Chapter I.
Betts: The Mind and Its Education, Chapter III.

3. **Sense organs**

a. Description

Microscopic bits of specialized tissue. Study diagrams.

b. Function: The primary knowledge of the world comes only through the sense organs. Sensory nerves are in contact with each of the sense organs, and the nervous currents are carried over the nervous pathways toward the spinal cord and brain.

c. Classification of sensations and sense organs
    (1) Vision—eye
    (2) Hearing—ear
    (3) Smell—olfactory nerve and bulb
    (4) Taste—tongue and nose
    (5) Skin sensation—organs for
        (a) Pressure and contact
        (b) Warmth
        (c) Cold
        (d) Pain

d. The eye

- (1) Parts of the eye: Study diagrams of the eye. Compare the eye with a camera. Learn parts of the eye and function of each part.
  - (a) Cornea
  - (b) Iris
  - (c) Pupil
  - (d) Lens
  - (e) Retina
  - (f) Optic nerve enters at back of the eye and spreads out in an intricate network throughout the retina.
  - (g) Rods and cones—The nerve fibers have at their ends tiny sense organs called **rods** and **cones**, which convert the light that is focused on them into nerve activity. The optic nerve carries the nerve activity produced by the effects of light on the rods and cones to the brain. This activity reaches the outer surface or cortex of the brain in a region called the visual area. From there it finally goes to other brain centers and thence out to the muscles. (Robinson, pages 199-200)
- (2) Sensations of sight
  - (a) Blind spots
  - (b) Color mixing
  - (c) Color contrast
  - (d) After-images
  - (e) Color blindness

    Texts give suggestions for experiments which may be performed in connection with the study of the sensations of sight.
- (3) Pupil activities:
  - (a) Draw a diagram of the eye, showing each part and stating the function of each part.
  - (b) What causes one to see double?
  - (c) Make a test for negative and positive after-images.
  - (d) Find a picture in which the complementary colors are placed side by side. Why did the artist so place them?
  - (e) What would you do in order to intensify red against a gray background?
  - (f) When one whirls a sparkler in the air why does it appear to be a continuous circle of fire?
  - (g) What is meant by color blindness? What different forms of color blindness may be found?

e. The ear

- (1) Parts: (Study diagrams of the ear and the function of each part of the ear)
  - (a) External ear—its duty is to gather up the sound waves and to transmit them to the middle ear
  - (b) Middle ear—reduces the amplitude of the sound waves and transmits them to the inner ear
  - (c) Eustachian tube—opens into the pharynx. It keeps the air pressure in the middle ear the same as the air pressure on the outside.
  - (d) Inner ear—changes vibratory movements created by the sound waves into nerve currents
  - (d) Auditory nerve—takes message to the brain
  - (f) Semi-circular canals—located in the inner ear but have nothing to do with hearing. They have to do with the balancing of the body.

- (2) Hearing
  - (a) Sound—depends upon vibrations; noise—irregular vibrations; tone—regular vibrations
  - (b) Attributes of sound—intensity or loudness, depending upon the amplitude of vibration
  - (c) Pitch—determined by the number of vibrations per second
  - (d) Quality or timbre—due to the source from which the vibrations come
  - (e) Noise or music—depending upon relation of the vibrations to each other
- (3) Suggested questions:
  - (a) Why is it necessary to test the integrity of the semicircular canals before a person goes into aviation?
  - (b) What are the three main divisions of the ear?
  - (c) What is the function of the Eustachian tube?
  - (d) Show how a sound wave travels from the external air through the different parts of the ear until it is connected to a nerve current.
  - (e) How may the discrimination of tone be made more acute?
  - (f) How has the radio made it possible to hear at a great distance?

f. Sensations of smell and taste

- (1) Organs of smell:
  - (a) Olfactory bulb—in the upper part of the nasal cavity
  - (b) Olfactory nerve—which conducts impulses from the nasal cavity to the brain
- (2) Organs of taste:
  - (a) Tongue—taste buds
  - (b) Olfactory nerve and bulb—in nasal passages
- (3) Types of odors:
  Spicy, flowery, fruity, resinous, foul, scorched
- (4) Types of taste sensations:
  Salt, sweet, sour, bitter
- (5) Characteristics of smell:
  - (a) Extremely delicate (See Morgan and Gilliland, page 113; Phillips, page 137)
  - (b) Oldest sense people have
  - (c) Easily fatigued
- (6) Characteristics of taste
  The loss of smell has a marked effect on taste.
- (7) Pupil activities:
  - (a) Take someone who is not in the class as a subject. Blindfold him, stuff nose with cotton. Give him bits of apple, potato, onion, salt, etc. Have him report what each article is. Account for results.
  - (b) Why does a person who has a bad cold often find it impossible to distinguish flavors?
  - (c) Place several drops of perfume or camphor on a handkerchief. For how long do you clearly distinguish the odor? When the odor has become faint to you find out whether it is perceptible to a person just entering from outside. Account for the results.
  - (d) Read the story of Helen Keller's life. How does she employ the sense of smell?
  - (e) Lukewarm coffee hardly seems to taste like coffee at all. Why?
  - (f) Why does a person often wrap his tongue around a piece of candy while eating it?

        - (g) Place a bit of alum on the tip of the tongue. What is the taste? Place some on the back of the tongue. What taste do you get? What conclusions may be drawn regarding location of taste centers?
        - (h) How may bitter medicine be taken in order to avoid much of the bitter taste?

- g. Skin sensations
    - (1) Kinds of sense organs in the skin
      Touch, pressure, temperature, pain
    - (2) Touch and pressure
      End-organs for pressure are located around the roots of the hair, between the hairs and on the palms of the hands and on other parts of the body. Pressure end-organs are particularly numerous in the tongue, lips, and finger tips. There are other sense organs located in the deeper parts of the skin. (See Morgan and Gilliland, page 118, for description.)
    - (3) Temperature sensations
      The sense organs for heat and cold are closely related, but they are entirely different end-organs.
    - (4) Pain sensations
      There are about twice as many pain end-organs as all the other end-organs together. Near and under the finger nails, in the eyelids, and in the pulp of the teeth, pain end-organs are especially numerous. The fewest pain spots are to be found in the cheeks, the thighs, and the ear lobes. Pain is man's danger signal. (Morgan and Gilliland, page 122.)
    - (5) Pupil activities
        - (a) Why is the hand more sensitive to touch than the face?
        - (b) Plot cold and warm spots on the hand.
        - (c) Why is pain called a danger signal?
        - (d) Account for the fact that pain may sometimes be pleasing.
        - (e) If a nurse wished to make a blood test, where would be the best place for her to prick the skin? Why?
- h. References:

Robinson: Practical Psychology, Chapter VIII
Morgan and Gilliland: An Introduction to Psychology, Chapter V
Phillips: An Elementary Psychology, Chapter VII
Betts: The Mind and Its Education, Chapter VI
Life of Helen Keller
Life of Edison
"Alone in the Dark," Atlantic Monthly, April, May, June, 1930
Scheidmann: Experiments in General Psychology
Tichener: Textbook of Psychology, pp. 60-100

4. How man knows what is going on around him

- a. The meaning of perception
  The act of knowing in which one interprets immediately and without any extended thinking that which is presented to the senses. (Robinson, page 190.)
  "It is active understanding."
- b. Examples of perception
    - (1) Can perceptions be classified in any other way than through the senses?
    - (2) When does one perceive?

c. Influence of habit in perception
  (1) Recognizing a book is an intellectual habit.
  (2) Different people observe a landscape differently, due to experience and habit.

d. How much may be perceived at one time?

Depends upon familiarity with the object, and the training and experience of the one observing. (Robinson, page 175.)

e. False perceptions or illusions
  (1) Definition: Habits of perception sometimes lead one astray in the interpretation of situations. A false perception of a real object is called an illusion.
  (2) Examples of illusions:
    (a) Interpretation of a cloud for a sail
    (b) Vertical distances appear greater than equal horizontal distances
    (c) Contrast affects one's interpretation of sensations
    (d) Filled or divided space appears greater than empty or undivided space
    (e) The apparent direction of a line is influenced by the presence of other lines
    (f) Illusions of perspective
  (3) Causes of illusions
    (a) Sometimes due to habits of perceiving
    (b) People perceive what they expect to perceive
    (c) State of mind—worry, fear, morbidness, etc.
    (d) Health

f. Hallucinations
  (1) Definition: A false perception of an unreal object
  (2) Examples: Visions, snakes seen by D. T. patients, faces, etc.
  (3) Causes: Fear, drugs, mental disorders, dreams, physical condition

g. Pupil activities
  (1) Find examples of the use of cues as indicators in a complete impression. Look in advertising, lettering, and cartooning material.
  (2) In initiation ceremonies the blindfolded neophyte is sometimes told that his arm is branded with a red-hot iron. A piece of ice is then pressed against his bare arm. Why is it so easy for him to believe that he has really been burned?
  (3) There seems to be much greater confusion in the crowded streets of a strange city than in the equally crowded streets with which one is familiar. What underlies this illusion?
  (4) Could we perceive anything concerning which we have had no previous or present sense of experience? Explain.
  (5) Why does one perceive the staircase figure (found in most texts) from above more often than from below? Why might this not be the case with a person who had lived in a basement?
  (6) In what way does the artist use illusion?
  (7) Study pictures and descriptions of stage scenery. Give examples of ways in which illusion is employed.
  (8) Why do some people think they receive messages from the dead?
  (9) Why does a boy who is expecting his mother to call him sometimes think that he hears her call when there is none?

(10) Study carefully the diagrams illustrating false perception found in various texts. Several are found in Morgan and Gilliland. Try to explain the illusions which you experience.

(11) Print on cards groups of letters. On another group of cards print the same letters but this time arrange them so that they spell words. Test to see in which group the greater number of letters will be recognized. Account for the difference.

h. References:

Robinson: Practical Psychology, Chapter VII
Morgan and Gilliland: Introduction to Psychology, Chapter VIII
Phillips: An Elementary Psychology, Chapter VII
Halleck: Psychology and Psychic Culture, pages 66-100
Scheidmann: Experiments in General Psychology
La Rue: Psychology for Teachers, page 128
Moss: Applications in Psychology, pages 49-50; 253-254
Gates: Elementary Psychology, Chapter XIII
Betts: The Mind and Its Education, Chapter VII

5. How heredity and environment determine human nature

a. Importance of heredity and environment

b. The meaning of heredity
"Any predisposition and possibility which the organism brings into the world is inherited, no matter whether such qualities are found in the parent or not." (Phillips, page 167)

c. Study Mendel's law

d. Inherited physical traits—resemblance of parents and children

e. Inherited mental traits—as seen in the study of The Kallikaks, Jukes, Edwards

f. Where do the hereditary qualities with which every child begins life come from?
   (1) Characteristics of humanity
   (2) Race inheritance
   (3) Characteristics of the father and mother
   (4) Individual characteristics due to variation and sex
   (5) Latent potentialities, capabilities, and limitations

g. Relation of environment to heredity
"Environment must have material on which to build and the results are according to the quantity and the quality of the material." (Phillips, page 174.)
   (1) Education must build on what nature furnishes.
   (2) Environment and working conditions mould character.

h. Suggested questions and activities:
   (1) Why study about our ancestors?
   (2) Are we born or made what we are? Give reasons for your answer.
   (3) According to Mendel's study, how are traits handed down?
   (4) How does it happen that children born of the same parents can be so dissimilar as we sometimes see them? (Refer to Mendel's cases.)
   (5) How has it come about that rabbits can run so fast? What happens to those that cannot run fast?
   (6) Why do we find cattle without horns?
   (7) What people become famous?
   (8) What does the study of the Edwards' family contribute to the subject of heredity?
   (9) What facts in regard to heredity do the Jukes and the Kallikaks furnish?
   (10) In what way may environment have had some influence in the above cases?

- (11) Make a list of traits which may be inherited.
- (12) Make a list of traits that may be acquired.
- (13) What conditions in home environment may be conducive to developing traits? Select a specific trait, and show what factors in environment may be conducive to its development.

i. References:

Moss: Applications in Psychology
Skinner, Gast, Skinner: Readings in Educational Psychology, Chapter V
La Rue: Mental Hygiene, Chapter V
Phillips: Elementary Psychology, Chapter VIII
Pyle: Science of Human Nature, Chapters II, IV
Wiggam: Fruit of the Family Tree
Outline of Knowledge, Volume VI, Chapter XV

III. A Study of the Ways in Which Habits Are Formed and Their Influence

(See suggestions under Unit VII.)

The aims for this unit are two-fold; namely, to help the student to realize the importance of habit in conduct, and to give him a knowledge of those factors which have to do with the forming and breaking of habits. Inasmuch as learning is so closely connected with habit formation, consideration should be given to the significant principles in the process of acquiring and retention of knowledge. Ample opportunity should be given for study of the illustrations of the principles involved in the study of the unit. The study may include observations of personal habits, habits of others, and the influence of habit in the schoolroom.

A. Outline for study

1. The place of habit in the economy of life

- a. Basis of habit in the nervous system
  - (1) The reflex
    - (a) The definite reflex
    - (b) The indefinite reflex—foundation for habit (Robinson, pages 46-51)
- b. Types of habits
  - (1) Simple movement habits and systems of habits
  - (2) Simple intellectual habits and systems of habits
  - (3) Simple feeling habits and systems of habits
    (Show how these work together in actual life)
  - (4) Specific habits
  - (5) General habits
  - (6) Universal habits
  - (7) Group habits
  - (8) Individual habits
- c. Pupil activities:
  - (1) Show by example how a person may have a conflict when the habits work in contradiction with each other.
  - (2) List the habits which indicate the personality of someone well known to you. Give examples of the manner in which these habits reveal the type of person he is.
  - (3) Why does mankind build shelters? Why do different groups of men build different kinds of shelters? Why is it that no two people, even if they live in exactly the same group, build shelters that are exactly alike?
  - (4) Give specific examples of each of the types of habits which you possess.

- d. References:
  - Betts: The Mind and Its Education, page 70
  - Morgan and Gilliland: An Introduction to Psychology, page 71
  - Robinson: Practical Psychology, Chapter III

2. **How experience modifies behavior**
   - a. Experience makes one react to things previously ignored; e. g. 2 + 2 = 4; d comes after a b c
     Fear—locomotive engineer is afraid of red light in his path
   - b. Experience makes people neglect things to which they previously reacted
   - c. Experience sometimes changes the character of one's reactions
   - d. Experience organizes one's complex habit systems (Robinson, Chapter IV)

3. **Conditions under which new habits are formed**
   - a. Problems produce new habits
   - b. Habits are formed through instruction
   - c. Habits are formed through imitation
   - d. Suggested questions:
     - (1) How has habit entered into the efficiency of the expert mechanic?
     - (2) Why is it unwise for a man to expect to make a fortune without the investment of money, time, or energy?
     - (3) Why does a business man fear bankruptcy while his child may be indifferent to the catastrophe?
     - (4) A man, who ten years ago listened to many promoters of oil and mining companies, will have nothing to do with agents or similar schemes today. What reasons may there be for his change of attitude?
     - (5) How does learning to dance change the reactions which a person may possess in regard to dancing?
     - (6) Watch a group of children at work, preferably at some manual task. Are there examples of instruction or of imitation?
     - (7) Name habits that are acquired with no intention of acquiring them. What factors in habit formation have been the foundation for the new habits?

4. **The fixation of habits** (Read James' Four Laws of Habits)
   - a. The ease of fixation depends upon what habits we already possess
   - b. Habits are quickly fixated if in line with our general interests
   - c. Habits are quickly fixated if results are pleasant
   - d. Habits are quickly fixated if they save us from unpleasant consequences
   - e. Repetition aids fixation but should not be too continuous
   - f. Absence of distraction aids fixation
   - g. Close attention aids fixation, but attention must be properly distributed. This distribution changes as learning progresses.
   - h. Limit of ability to fix habits varies with people (See Robinson, Chapter V)

5. **Features of established habits**
   - a. Hard to break (Read the "Tyranny of Habit"—Betts)
   - b. A well fixed habit will work well even after a period of prolonged inactivity
   - c. If habit is useful, efficiency is increased
   - d. The better fixated a habit becomes, the more powerful it is to him who possesses it

  - e. As a habit becomes more firmly fixed it requires less attention, effort, thought

6. **Elimination of habits**
    - a. If sufficient stimuli of the right kind are lacking, the habit may not operate
    - b. Later formed habits tend to interfere with and break up earlier formed habits
    - c. How to break bad habits:
        - (1) Motivate the change of habit
        - (2) Form a new habit in place of the old
        - (3) Seize the earliest opportunity to put the new mode of conduct into operation
        - (4) The less thought we give to the old habit, the better
        - (5) Once embarked upon the new way of acting do not let one exception occur
        - (6) We must act with our whole being. Plunge into the new program. The new habit, if it is to survive, must be favored in every possible manner and repeated in its complete form as often as possible. (See Robinson, page 25; Phillips, page 42.)

B. Problems and questions

Fixate a new habit. (Suggestions: drinking a glass of water each morning before breakfast; taking a new route to school; rising at a different time; selecting a definite task.) Plot a graph showing record of each accomplishment.

1. Why is a person unable to do bookkeeping if he has not mastered arithmetic?
2. Give an example of the way in which one habit in athletics may interfere with another habit. What does the coach do when this difficulty appears in training for the game?
3. Why do training schools for nurses offer a probation period?
4. Why does an animal trainer give the animal a piece of meat after the trick has been successfully performed?
5. Why are prizes given for achievements along certain lines? Examples: medals for declamation contests, Pulitzer prize, trophy cups in athletics. What reward should rank higher than these prizes?
6. The parents of a boy in the fifth grade promised him a bicycle if he finished the year's work with grades of A and B. Was this the right kind of a promise to make? Give reasons for your answer.
7. Under what conditions is "grade getting" wrong?
8. What religious ideas regarding punishment have tended to fix habits of many people? What psychological principle is back of this idea?
9. Modify the saying, "Practice makes perfect."
10. Find out how many times a day children in the first or second grades have drill exercises in arithmetic. Why does the teacher use several short periods for drill exercises rather than one or two longer periods during the day?
11. With what distractions do you have to contend when studying in the assembly room? Account for the fact that disturbances which previously hindered have now ceased to bother.
12. If you are taking typewriting, plot a graph showing progress. On the vertical line indicate the score, on the horizontal line show hours of practice. If possible ive reasons for variation in score.

13. Would it be desirable to remove from the learner's surroundings all stimuli not related to what he is learning? Reasons for your answer.
14. What is the cause of plateaus? Recall a plateau experience. To what do you think it was due?
15. How is "keeping young" related to the building of new habits?
16. Describe a face studied for marks of habit. (Study pictures of different types of people. Test to see if you can tell to what type they belong by the lines on their faces. Does the face tell anything about a person?) See if you can register fear, anger, disgust, hate, scorn, joy, pain, meditation, in the face.
17. Designate a habit to be formed by John Brown and state how you would explain to him the steps to be taken in the forming of the habit. Use direct address in order that you may have experience in selection of words.

C. References

Robinson: Practical Psychology, Chapters IV, V
Phillips: An Elementary Psychology, Chapter III
Morgan and Gilliland: An Introduction to Psychology, Chapter IV
Betts: Mind and Its Education, Chapter V

IV. Development of Economical Methods of Study and Work

The object of this unit is to suggest the importance of proper adjustment with regard to work and study. Correct habits of working are important, and it is believed that a study of the important factors of study and work, together with opportunity to observe concrete examples and the experience in arranging and carrying out of working programs, will be of value to the student. With these ideas in mind the unit has been prepared.

A. Outline for study

1. **How one learns**
   a. The simplest form of learning consists of strengthening or weakening the native reactions
      (1) Learning itself is a native capacity
      (2) Learning takes place only during activity; it is never a passive process of absorption but on the contrary a very active process of reacting
   b. Laws of learning
      (1) Law of use: Other things being equal, the strength of a learned act depends upon the number of times the act has been performed
         (a) Study of learning curves
         (b) Reasons for plateaus
      (2) Law of disuse and forgetting: Any learning process that is not practiced gradually decays
      (3) Law of effect: Those acts which give satisfaction tend to become fixed, and those acts whose results give annoyance are not so easily fixed.
   c. How one may learn more efficiently
      Psychology should teach how to study more efficiently so that lessons can be learned in a shorter time, or more or better lessons learned in a given time.
      (1) One should have the intention to learn
      (2) One learns best by doing

- (3) One must have good working conditions
- (4) It pays to work vigorously
- (5) One should learn to reason effectively
  - (a) Values of reasoning
    - Saves time and energy
    - Prevents the committing of serious errors
    - Prepares for situations that have not yet arisen
    - Conclusions reached prepare for action or for further thinking
  - (b) Basis of reasoning
    - Clear conception of the problem
    - Possession of all information possible
    - Disinterested attitude
    - Experience
    - Questioning of information
    - Experiments, investigation, observation

2. **How study may pay**

a. Does it pay to study? (A problem to be solved)

Collect data concerning people who have achieved success or are achieving success in college today. Northwestern University publishes a report regarding the scholastic standing of freshmen in the school. This study, and all other studies of this nature, shows that those who make good in high school are more likely to make good in college than are those who have had a poor record in their academic work. (Morgan and Gilliland, page 201.)

b. The atmosphere for study

"Cumulative Suggestions Derived from a Study of 1000 Students at the State Teachers' College, Winona, Minnesota"—**Readings in Educational Psychology**, Skinner, Gast and Skinner.

- (1) Health—keep your body fit
- (2) Physical condition—quiet room, suitable tables and chairs, proper ventilation and temperature
- (3) Do not worry or complain about the kind or size of the piece of work. (La Rue, Mental Hygiene, page 225.)
- (4) Take an attitude of study
- (5) Set a motive
- (6) Begin promptly
- (7) Concentrate
- (8) Think that you can do the required studying
- (9) Do the work for yourself
- (10) Ask for as little help as possible
- (11) Keep an open mind
- (12) As far as possible get the materials about you before you begin

3. **Fixation of study habits**

Application of the principles of habit fixation in formation of study habits: Review the principles of habit fixation. Which of the above suggestions are included in the factors of habit fixation?

4. **Observation of study habits**

Go to grade classroom, intermediate or junior high. Select a pupil and watch his habits of work. Draw a profile of his attention during a study and recitation period. Keep a record of what he does during each minute of the period. Example: 2:17, apparently thinking; 2:18, looking out of the window; 2:19, writing, etc. After observation is made of the study period or the recitation period, see how study and recitation compare. Is there any relation between the two? If necessary, observe him for two days.

5. **How should time for study be distributed?**
   a. Period should not be continued far beyond the point where boredom and fatigue appear.
   b. The period should be continued long enough to bring one to a logical stopping place.
   c. Periods of study should not be too widely separated. (Robinson, page 277.)

B. Suggested questions and activities

1. What is the most important law of learning?
2. At what stage in the learning process is learning most rapid? Give reasons for this. (A new broom sweeps clean.)
3. What is a plateau in learning? Give some cases of plateaus.
4. Repeat a series of numbers of four digits to the class at the rate of one number per second. Try to have the class recall all the series they can remember. Explain why certain parts of these series were retained and the others forgotten.
5. What is the reason for having students do experiments in the laboratory rather than having the instructor perform the experiments before the class?
6. When may cramming be justifiable? What are its dangers? (Robinson, page 277.)
7. What is distraction? Why may certain things be a distraction to one person and not to another?
8. Is there any justification in hard work? If so, what?
9. How long should we work at a time?
10. What type of problem will be the greatest stimulus to learning: one which is extremely hard; one which is extremely easy; or one which is hard, but not so hard as to be beyond the ability of the learner?
11. Learning can take place without instruction, but why is it difficult to acquire expert skill independently?
12. Assign to the class a poem to learn. The members may analyze the process of learning according to the outline given above.
13. Visit one of the lower grades. Observe the atmosphere for study. How many of the factors listed above were noticeable? Describe the manner in which they were present.
14. Visit third, fourth, fifth, or sixth grade. Observe the distribution of study time. How were the three points in distribution of study time carried out? Were there indications of boredom or fatigue? Might these be due to any other factors than too long a study period? Did the stopping place appear to be a logical one? When would there be opportunity to study the material again?
15. Arrange a study schedule for yourself and plot a graph to show your success in carrying it out.

C. References

Morgan and Gilliland: An Introduction to Psychology, Chapter V
Robinson: Practical Psychology, Chapters IV, X
La Rue: Mental Hygiene
Skinner, Gast Skinner: Readings, Chapter IX

V. Motivation and Adjustment in Human Life

A chapter on the duty of human nature that is of the greatest interest to students is that pertaining to dominant life forces. Frequently questions are raised regarding ways and means of meeting situations that have arisen because of the compelling forces of these impulses. If a study of psychology succeeds in giving the student a certain amount of knowledge concerning the right and wrong methods employed in making adjustments to life forces, if through this study the individual is better able to understand himself and to understand others, if it aids him in finding his niche in the social order, it will have been worthwhile. This unit has, therefore, been prepared to afford the student opportunity to study the urges or motives dominant in the lives of human beings and the ways by which mankind makes adjustments to these urges.

A. Outline for study

1. **Dominant human urges**
   - a. Organic urge—urge of hunger
   - b. Sex attraction
   - c. Mastery impulse
     - (1) Urge to overcome opportunities and obstructions
     - (2) Urge to dominate people and things
     - (3) Urge to excel a rival
     - (4) Urge to succeed in general
   - d. Fighting to overcome interference
   - e. Urge to hunt and destroy
   - f. Urge to submit
     Admiration, awe, reverence, veneration, "hero-worship," craving for sympathy, worship
   - g. Urge to relieve suffering. Societies for prevention of cruelty to animals; child labor laws; poor relief
   - h. Urge for self-seeking
   - i. Parental urge
   - j. Gregarious impulses
   - k. Desire for social approval
   - l. Desire to avoid social disapproval
2. **Suggestive questions:**
   - a. Probably nearly everyone would like to own a car. Is there a native urge to possess and use cars? If not, how would you explain this desire?
   - b. Why do people like to tease? Why do boys like to break windows? Steal apples? Torment peddlers, etc.?
   - c. If there is a strong urge to collect and hoard, why do so few people accumulate sufficient wealth to support themselves in their old age? Name other urges which are in conflict with the collecting and hoarding urge.
   - d. What are the main impulses involved in adornment? Would a person long alone adorn himself much?
   - e. Which of the urges listed above are most important? Which are present through adult life? Which ones become stronger in adult life? Which ones are taken into account by religious doctrines? By publishers?
   - f. Name some things that people do to secure social approval.
   - g. Give instances when a slight suspicion of disapproval brings great mental discomfort.
   - h. What are the main impulses satisfied by the boys' gangs? At what ages are they most prominent? What specific activities are most prevalent in them?
   - i. What impulses are likely most readily gratified in the life of the teacher, the minister, the lawyer, the politician, the prize fighter, the argumentative person, the social worker, the laboratory investigator in sciences?

- j. What impulses work to make the following satisfying or annoying? The dance; Christian Endeavor activities; hazing of freshmen; football for the players and for the spectators; domestic labor; wearing fine clothes; facial blemishes?
- k. Consider some vocation in which you are interested, or some activity that appeals to you. Analyze the forces that cause you to like this activity.
- l. Consider an activity that you engage in even though you dislike it. Why do you do it? What urges conflict? Is there any means whereby you may come to like the activity more than you do now?
- m. Give illustrations of the predominance of altruistic ideals in the teens.
- n. Give arguments for and against coeducation in high schools. Discuss the argument that the best education for life is most like the life to be lived.
- o. Give illustrations of the various ways in which interest in the opposite sex manifests itself.

3. Making adjustments

- a. Adjustment by reasoning
  - (1) Definition
  - (2) Reasoning only occurs in the face of difficulties. (Split-road situation.) (Robinson, page 331.)
  - (3) Value of reasoning
    - (a) Saves time and energy
    - (b) Requires fewer trials
    - (c) More economical of materials
    - (d) May be considered in abstract and general problems
  - (4) Efficiency of reasoning measured by quality, not by quantity. Discuss—"What one reasons about is a clue to his intelligence."
  - (5) Basis of reasoning
    - (a) Possession of accurate information
    - (b) Testing of information
    - (c) Experiments
    - (d) List other factors
  - (6) Steps in reasoning
    - (a) See the problem
    - (b) Attain disinterested attitude
    - (c) Find the solution
    - (d) Formulate the theory
    - (e) State results or conclusions
    - (f) Give other ways of stating the steps
    - (g) Give reasons why each step is important
    - (h) Have problems to solve and trace steps in reasoning
- b. Adjustment by rationalization

  Rationalization means more or less disregard for all evidence except what furthers our side of the case. Example: A middle-aged man with a wife and family buys an expensive automobile. When questioned by his uncle, who deems it an ill-afforded extravagance, he rationalizes, i. e., he uses his intellect to find acceptable reasons instead of real causes for his act. Other forms of rationalization follow:
  - (1) Adjustment by projection

    This is a tendency to project failure or trouble to some cause other than one's own deficiencies, i. e., the tendency to place the blame for one's conduct on circumstances that are beyond one's control. Example: A clumsy carpenter accuses his tools. A man exclaimed when his carelessness resulted in the burning of his home, "It was the Lord's will".

(2) Adjustment by the "sour grapes" mechanism
A tendency to minimize or deny the desirability of the ends sought. A person who loses his job through inefficiency may convince himself that the loss was a blessing in disguise.

(3) The "Sweet Lemon" mechanism
The fox finding nothing but sour grapes declared that they were really sweet, just the kind for which he had been searching. Pollyanna reasons that no matter what the calamity, one ought really to be pleased, because it might have been worse. Show that these last two forms are negative rather than progressive.

(4) Prejudice and logic-right compartments
These are systems of ideas developed by rationalization. The milder forms are convictions in regard to the superiority of our town or county, our college, our state, ourselves, etc. (Morgan, the Psychology of the Unadjusted School Child, page 180.)

c. Defense mechanisms
These are avenues of escape from disagreeable or impossible duties. Headaches, weak eyes, nervous breakdowns, malingering, hysteria, insanity, etc. The dangers of wrong adjustments should be emphasized.

d. Substitute activities or compensations
A woman, lacking beauty or wit, may, to secure approval, adopt gorgeous apparel. Unprepared student in writing his examination may compensate in volume for what he lacks in facts.

(1) Undesirable compensations
Addiction to alcohol, morphine, or other drugs may be considered as compensation for thwarted desires. Other examples—anger, temperamental fits, etc.

(2) More desirable compensations—called also sublimations
Of all methods of adjustment to the thwarting of fundamental impulses, the substitution of some wholesome but vigorous activity, while not always the easiest, is by far the best. Example: For fighting or other dominating impulses of youth, vigorous athletic games may be substituted; religion as an outlet for the ungratified portion of love—life, or as compensation for business and professional failures, is a common substitute activity; i. e., altruism, poetry, drama, art, science, business, new vocations may serve to sublimate repressed needs.

e. Flight from reality
Day dreaming, attending movies, reading fiction, entertaining people, travel, etc.

(1) "Conquering Hero" type
The urge to secure social approval, mastery, etc., is gratified by playing one's self, in imagination, as a "Conquering Hero". One may picture himself as a hero in battle, on the gridiron, in the prize ring, as a great orator or singer—indeed as the superlative in any line, even in benevolence or modesty.

(2) "Suffering Hero" type
A boy, ruminating over his hard luck and ill treatment (as he sees it) at home, or school, pictures himself as forced to run away from home. He imagines himself

joining a group of bandits and going to the bad completely or perhaps overwhelmed by a snowstorm or wild beasts, by which he is injured or even killed. The suffering hero mechanism is often behind such childish behavior as pouting, sullenness, pretending injuries or illness, refusal to eat or to play.

B. Suggested activities

1. What characteristic desires are often thwarted and what adjustments are frequently made by the following: The deaf child, the crippled child, the lighthouse keeper, the missionary, the youngest child in the household, the head of a large business concern, the freshman, the office boy, the book agent?
2. Give historical examples of individuals who compensated in useful ways for thwarting of strong desires
3. List some of the possible causes of eye trouble that may prevent the completion of a required task in school
4. Make a list of the excuses frequently given by students failing to pass an examination and examine the list for rationalization
5. Consider some of the adjustments that must be made after finishing high school. Give suggestions for making these adjustments.
6. Consider adjustments necessary in various vocations that appeal to the class

C. References

Gates: Elementary Psychology
(Much of this outline is based on the above named book.)
Woodworth's Psychology
Coe: The Motives of Men, Scribners, Chapters XV, XVI, XVII, contains material on Motives of Workingmen, Motives of Business, Economic Production as a Mode of Self-Realization
Curti: Child Psychology, pages 307-328
Skinner-Gast-Skinner: Readings in Educational Psychology, Chapter XVI.
Morgan and Gilliland: Introduction to Psychology, pages 61-64
Robinson: Practical Psychology, pages 55-64
Phillips: Elementary Psychology, Chapter II.
Halleck: Psychology and Psychic Culture, pages 309-315
Dorsey: Why We Behave Like Human Beings, Chapters V and VII.
Morgan: The Psychology of the Unadjusted School Child, Chapters IX, X, XI, XII.
Overstreet: About Ourselves

D. Suggestions

After completing the unit as outlined other references may be read and reports given. Some of this may have to be given in the form of a lecture but if notes are taken, the class should find it a very easy unit to grasp, since every point may be applied to everyday life. The problems may be discussed, and if one chooses, they may be made to furnish suggestions for more careful study and reporting, to be given in the form of themes or oral reports done as project work.

VI. Personality and Its Relation to Efficiency

Perhaps no term is more overworked than the word personality, but since it is maintained that psychology should aid a person to better understand himself and his fellows and to better adjust himself to life situations, a unit given to the consideration of the factors comprising this important phase of human nature is essential. Since the unit follows the study of dominant forces, much of the material there listed may be of value here. Likewise, the factors involved in habit formation will have a place in this unit. This should be, perhaps more than in any of the other units, a time when the student may read, discuss, and digest for himself. As the plan is being carried out, the teacher will need to keep in mind certain aims which may be:

1. A consideration and realization on the part of the student of the vital factors comprising personality
2. An investigation of the characteristics of personality possessed by well-known people of today
3. Securing by means of tests or charts, a knowledge of the personality traits of the students
4. An analysis of those personality factors present in the successful life

A. Outline for study

1. Basis of personality
- a. Habit
- b. Inborn traits
- c. Acquired traits

2. How personality is revealed
- a. Intelligence
  - (1) Abstract intelligence
  - (2) Social intelligence
  - (3) Mechanical intelligence
- b. Sociability
  - (1) Extrovert—one who maintains the aggressive role
  - (2) Introvert—one who plays a defensive role (See Moss)
- c. Forcefulness
  - (1) Method of attack
  - (2) Persistence
  - (3) Interest and enthusiasm
- d. Moral character
  - (1) Honesty
  - (2) Trustworthiness
  - (3) Self-reliance
  - (4) Obedience and respect for authority
  - (5) Forgiveness
  - (6) Unselfishness
  - (7) Cooperation and loyalty
  - (8) Punctuality
  - (9) Kindness and generosity
  - (10) Industry
  - (11) Self-control, etc. (See Charters)
- e. Emotional life
  - (1) Temperament
    - (a) Elated type
    - (b) Depressed type
    - (c) Irritable type
    - (d) Unstable type
  - (2) Moods
  - (3) Fears
    - (a) Worry
    - (b) Superstition
    - (c) Phobias (See Walsh)
  - (4) Patriotism
  - (5) Worship

3. Methods of studying personality traits
- a. Pseudo-scientific methods
  - (1) Photographs
  - (2) Handwriting

    - (3) Spelling (See Moss)
  - b. A study of illnesses, disappointments, and critical experiences of the individual
  - c. A study of voluntary actions
  - d. A study of dreams and wishes (Robinson and Robinson, **Readings in General Psychology**, pages 572-578.)
  - e. A study of habits
  - f. A study of unconscious acts

4. **Influences in developing personality**
   - a. Properly balanced habit systems
   - b. Major interests and purposes
   - c. Dominating interests
     - (1) Should be in reality
     - (2) Should harmonize with those of the community
     - (3) Should be in a definite accomplishment
   - d. Community interests or group interests
   - e. Home
   - f. Educational advantages
   - g. Religious training and its influence upon personality
   - h. Travel
   - i. Reading
   - j. Companions

B. Pupil activities

1. Collect references and report concerning the personality traits required by people in different fields of work: salesman, politician, nurse, teacher, doctor, merchant, librarian, secretary or stenographer, etc.
2. Give reports on the following readings:
   "Hypnosis", Robinson and Robinson, Chapter XX.
   "Multiple Personality", and "Mediums and Tricksters", Robinson and Robinson, Chapter XX.
   "The Fear Habit", and "Results of Fear", Walsh
   "The Wish", Robinson and Robinson, Chapter XX.
   "Reading of Character from External Signs", Robinson and Robinson, Chapter XX.
   "Religions and Health", "Mental Hygiene", by LaRue. Chapter XVII.
   "What Men Live By", Cabot
3. Make a study of some great present-day leader, as Hoover, Lindbergh, Mussolini, Gandhi. What personality traits are strongest? Cite examples.
4. Why does it sometimes happen that men may be crude, ill-mannered, and slovenly, but still have a marked influence for good? Samuel Johnson is an example from literature. Would you say that successes of this kind are the exceptions or the rules?
5. Following Charters, Moss, or some good measuring scale for efficiency, prepare a device for measuring personality and efficiency. Rate yourself, then have two others rate. What results do you note? Check points wherein you realize definite weakness that you can improve.
6. What factors in the organization of the Boy Scouts tend to develop personality and efficiency? Can you cite instances where it has been evident that the training received as a Scout has been of influence in the developing of personality of an individual?
7. What do you consider the vital points in a successful life? Follow the statement of each factor with your reason for the assertion. Enforce the reason with concrete examples.

C. References

Robinson: Practical Psychology, Chapter XIV
Morgan and Gilliland: Introduction to Psychology, Chapter XVI
Moss: Application of Psychology, Chapter XII
La Rue: Mental Hygiene, Chapter II
Robinson and Robinson: Readings in Psychology, Chapter XX
Phillips: Elementary Psychology, Chapters II, IV, XII, XIV
Walsh: Fear
Charters: The Teaching of Ideals, Chapters III, VIII, IX
Betts: The Mind and Its Education, Chapters V, XV
Downey: The Will Temperament and Its Testing, World Book Company, Chicago, 1923
Success articles, biographical material and magazines

VII. Psychology Applied to Life Situations

If students are interested in the course in psychology, they will find many subjects about which they wish more information. Particularly will they desire more information regarding practical application of psychology to life situations. It cannot be expected that in a single semester course it will be possible to cover all the many branches of applied psychology, but the teacher can do much toward creating interest by assisting the students to apply the laws to daily events. When the school athlete sidetracks from his basketball skirmishes to come of his own accord to discuss the factors of heredity and the motives involved in a mystery plot of a recent movie or an apparently indifferent girl suddenly appears unsummoned to ask the teacher if they are going to study "about how faces tell what we are" and then brings forth some material she had been collecting, there is evidence of an interest in the application of psychology. By consultation and guidance in reading, much may be done to assist the student in taking a rational view in regard to solving problems which may confront him. Opportunities may arise in the course of study to rectify any and many false notions and superstitions. The course should be planned in order that each student may be allowed to contribute to the class findings of some study in which he is most interested. Students will find many of these fields for themselves as they study the courses. As early as possible, perhaps during the study of the third unit, the students should select their topics and begin collecting their materials. Information may be found in books, magazines, newspapers, advertisements, and among people themselves. From time to time individual conferences and class discussions will be necessary.

The topics below have been selected in previous courses and may offer suggestions. Teachers and students are urged, however, to use topics appealing to their own interests.

Advertising in relation to psychology
Psychology in the training of animals
Spiritualism
Psychology of salesmanship
Dreams and sleep
Human instincts
Hypnotism
Mental measurements
A study of fear-inferiority complexes
Memory training courses
Social psychology
Psychology in the field of training
Psychology and the social worker
Religion
Character traits and their psychological analysis
Instincts
Psychology in personality

Child training
Psychology in the care of the sick
Mental hygiene in the home
Psychology in music, literature, art
Insanity and other mental disorders

VIII. Bibliography

It will be noted that the books starred are the ones used frequently for references:

*Robinson: Practical Psychology. The Macmillan Company, San Francisco. 1926
*Morgan, J. B., and Gilliland, A. R.: An Introduction to Psychology. The Macmillan Company, San Francisco. 1929
*Phillips, D. E.: An Elementary Psychology. Ginn and Company, Chicago
*Moss, F. A.: Applications of Psychology. Houghton Mifflin Company, Boston. 1929
Gates, A. I.: Elementary Psychology. The Macmillan Company, San Francisco
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Budington: Psychology and Human Life. Silver, Burdett and Company, Chicago
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Keller, Helen: The Story of My Life. Grosset and Dunlap, New York. 1903
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Scheidmann: Experiments in General Psychology. University of Chicago Press, Chicago. 1929
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Pyle: Science of Human Nature. Silver, Burdett and Company, Chicago. 1917
Wiggam: Fruit of the Family Tree. Bobbs-Merrill Company, Indianapolis. 1929
Farnsworth: Practical Psychology. George Sully and Company, New York
Norsworthy and Whitley: Psychology of Childhood. The Macmillan Company, San Francisco. 1918
Little Blue Books: E. Haldeman-Julius Series, Girard, Kansas
  Markun, L.: "Insanity and Other Mental Disorders"
  Randolph, V.: "New Experiments in Animal Psychology"
  Shipley, M.: "Hypnotism Made Plain"
  Shipley, M.: "The Intelligence of Invertebrate Animals"
  Carrington, H.: "The Nature of Dreams"
Moore: Dynamic Psychology. J. B. Lippincott Company, Chicago
Charters, W. W.: The Teaching of Ideals. The Macmillan Company, San Francisco. 1927
Gruenberg: Your Child Today and Tomorrow. J. B. Lippincott Company, Chicago
Titchenor, E. B.: A Textbook of Psychology. The Macmillan Company, San Francisco
Grimshaw, Robert: Lessons in Personal Efficiency. The Macmillan Company, San Francisco. 1918
Cabot, R. C.: What Men Live By. Houghton Mifflin Company, Boston. 1914
Kirkpatrick, E. A.: Fundamentals of Child Study. The Macmillan Company, San Francisco. 1917
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Jastrow: Fact and Fable in Psychology. Houghton Mifflin Company, Boston. 1900

Peters, C. C.: Human Conduct. The Macmillan Company, San Francisco. 1918
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PART TEN—MONTANA LIFE

I. Introductory Statement

At the present time there are many signs in the thought life of Montana that indicate the rise and growth of a genuine state consciousness. Not the least significant of these signs is the call from a number of leaders of high school thought, widely distributed over the state, for an organized plan of study that will lead high school students to a better understanding of the real nature of Montana life. It is as a response to this call that this course is presented to the high school people of the state.

In many schools in the state, attempts have already been made to meet this need and the response from students has been most encouraging. It is not the purpose of this course to supplant any similar course that is already functioning. Its purpose is rather to advance suggestions by means of which such courses can be strengthened, and to lay down a plan of action for those leaders of high school thought who desire to furnish some guidance in the upbuilding of a true and intelligent awareness of the significance and meaning of Montana life.

Montana has passed through some deep water, during the past decade. But this was not the first period in Montana life that "Tried men's souls," and it probably will not be the last. A working knowledge of Montana's significant past—of the failures and achievements of Montana pioneers, and of the prospects of Montana's future—will be of the greatest possible assistance in helping young people to decide whether it is best for them to cast in their lot with the Montana of tomorrow.

Montana is still in the pioneer stage. It holds out many intriguing problems to be solved by the coming generation. It is necessary for Montana youth to move forward well-equipped to meet these situations of the future. A highly essential part of this equipment is a wider knowledge of their own state. Such is the purpose of this course in **Montana Life.**

Montana Life should not be thought of as a course, the object of which is to "sell" Montana to the youth of the state. Much harm has already been done to the Treasure State by too liberal an application of "booster" psychology. Rather the course should be thought of as a medium through which the basic factors of Montana life can be discovered. The facts, when properly understood, will speak for themselves. With these facts properly organized, it is possible to compare Montana conditions with life elsewhere and to reach some sound conclusions as to the direction in which Montana life is trending, although it must be borne in mind that Montana's future greatness will not be attained through any close conformity with or imitation of life in other communities.

Nature made of Montana a region that is peculiar unto itself. Through the work of man an area that is an empire in extent was set apart as Montana. So great is it in size and so varied in natural equipment and resources that the outlook of any one individual on Montana life is in danger of becoming very sectional and limited.

It is to overcome, in a measure, this handicap of distance and location, and to make more intelligent the participation of the youth of today in the work of tomorrow that this course has been brought together. It is hoped that the line of study and investigation that it prompts will be continued far beyond the schoolroom, for only a few of the many and varied situations of Montana life can be dealt with in this brief survey.

Montana Life, as planned, is a course to occupy the time of a high school class for one full semester. It may be taken during any year of the four, though it is recommended for use in the sophomore year or after. The completion of the course entitles the student to one-half unit of credit.

II. Objectives

The principal objectives of this course are:

A. To stimulate an intelligent curiosity in Montana history
B. To furnish a small measure of training in the methods that may be used in satisfying such motivated interest

III. Attainments

Briefly stated the students should show:

A. Knowledge of where to go for information about Montana and its history
B. Ability to interpret the facts of Montana history
C. An expanding interest in the affairs of Montana
D. Desire to render service to Montana

Practically all of the challenging situations of adult life arise in the form of questions and, as such, they demand answers. The purposeful individual who expects to meet these situations goes forth seeking answers for these questions. He draws upon all known sources of information and uncovers fresh springs of facts and data. He is not satisfied until he has found an answer. Facts alone mean little. Interpretation of their meaning and knowledge of where to find them when needed are the most valuable part of the mental equipment of the truly educated person.

It is often necessary to search long and diligently before an answer is found. Unlike many school textbooks, the Book of Life does not have the answers for its puzzling questions recorded carefully at a designated place in the book. Yet, under the motivation of strong interest, they are found, for the active mind will not rest until an answer is forthcoming.

It is through questions that desire and interest are aroused. It is through facts that thinking is stimulated and it is through thinking that conclusions are established. Fact finding is a step toward reasoned conclusions. Facts are valuable only as they lead to purposeful thinking. In brief, that is the method of this course. It should result in some proficiency in all three steps of this useful process.

Active and alert students will go far beyond the specific situations and requirements of the course. Much intelligent and sympathetic leadership will be necessary if the real objectives of the course are to be attained.

IV. Procedure

This course is unique in its expectations. It is also peculiar in its methods. It is essentially a problem course based on units of study and is planned as such. Teachers who do not have a working familiarity with the problem method as applied to the social sciences are strongly advised to go through some one of the many good books in which this method is discussed, and then to practice the technique until it comes easy to them.

A. Units

The course is laid out in eighteen units, each to occupy one week of time. Each unit is independent of all other units and contributes something to the whole picture and story of Montana. It is not necessary to take the units up in the numbered order, though this plan is strongly advised by the author of the course.

B. Leading question

Each unit is introduced by a leading question and from the study of the unit should arise an intelligent answer for this question. At the end of work on the unit, this answer should be put together in clear, well-organized language, for only through such organization and expression can thinking become lucid and useful.

C. Class discussion

Each unit should be taken up first through class discussion, which should be a very free discussion. It will be found in any high school class that some students will possess useful information that may have an important bearing on the solution of the problem. This discussion may well occupy all the time of the first class period of the week, or more if necessary but snap conclusions and hasty judgment should be discouraged.

D. Sources of information

During the first class period on a unit, attention must be called to the sources of information and how to use them. It may be found valuable to make special assignments to individual students who may study particular phases of the subject and report the results of their investigations to the class. Notebooks should be kept, but they should be regarded as a means to an end and not as an end in themselves.

Motivation is all-important in a course of this kind. It is an urge to know that drives the mature adult to find answers for his problems. The leading questions are stated concisely so that they will be suggestive. Above all else, teachers must avoid any attempt to put over their own opinions. Teachers should encourage the spirit of research, and let the facts lead where they may.

E. Fact questions

The fact questions are set down as a means of bringing out many of the facts necessary in reaching a well-reasoned conclusion on the leading question. They may be used as class material, or as the basis of special reports. Other questions, bearing on the same problem, may be formulated, following the trend of class discussion or the needs of particular students.

F. Problem questions

The problem questions are intended to provoke thought. It may be well occasionally to require written answers for them. If this is done, it is suggested that the written work be required on a standard style of paper, so that it may all be bound together in a special notebook. This notebook should be one of the fruits of the course, and, at the end, should contain all of the papers prepared by the student, his data sheets, copies of the questions and his reaction to the projects; the whole should be enclosed in a substantial cover which may be decorated with a suitable original design or an accurate representation of the state seal.

G. Projects

The projects are all intended as objective exercises. Together with the problems they may furnish teachers with something definite on which to base their estimates of student effort. Objective tests may be prepared by teachers.

Practice in the preparation of maps and graphs has a value in itself. It is one means by which the student learns to interpret such devices of learning. In the main, in map work it will be better to use printed outline maps, as the tracing of the necessary outlines consumes much time and often results in error. Teachers should bear in mind that the legend is the most important feature on any map. Only the best efforts of the students should be accepted on any written objective exercises.

On the last day of the week written answers to the leading question of the study should be required. They should be made brief and should usually not exceed two hundred words or, better still, not more than one hundred words. Rewriting may sometimes be necessary, but this will be found to be excellent practice in the use and organization of language to convey desired meaning. The answers may be read before the class or not, as teachers find most expedient.

H. Reference reading

Wide reading should be encouraged and should be made one of the standards of the course. Suggestions as to what to read may be found in the newly published High School Library List in the History section under Montana and Northwest Territory (978.6) and at the section ends in **Montana in the Making.** Reports on special books and publications will be found to be a valuable device in stimulating thoughtful reading.

I. Visual aids

Pictures should be used in every possible way in connection with this course. Students should be encouraged to collect them and to make use of them in illustrating their notebooks. Students should use their own cameras wherever possible. Exhibitions should be made of the best samples of objective work and the most tastefully prepared notebooks. Everything possible should be done to encourage originality along all these lines. It is largely through expressions of originality that success in Montana life has been attained.

J. Term project (paper)

It may be found desirable to require a term project from each student. In case this is done, the choice of subject should rest largely with the student. Genuine interest will be found to be the strongest element in securing proper motivation. This project may be developed as a well-organized and illustrated booklet, dealing with some selected phase of Montana geography, history or economic life. It may be the story of some one industry that is strong in the local community. It may be a study of community history, resources or business life. It may be an outline of family history and experience in the West and in Montana. The field of possible topics is very wide. If term projects are required, topics should be selected at a time not later than the beginning of the seventh week of the course, and earlier than this, if possible. Originality in plan and design should be encouraged, but only the students' very best effort should be accepted in the development of these term projects. If they are well put together, it will be found that they can be used as a means of calling the attention of the local community to the school and its work in a very desirable way. See **Montana in the Making**, pp. 503 and 512.

V. Sources of Material

The most baffling situation in connection with this course will be to know where to find the proper material. It is essentially a research course to be conducted along laboratory lines. No book contains all of the necessary information. Special literature interpreting Montana life is very scarce yet there are many sources of information. Alert students and teachers will find and use them.

One of the books that contains the largest collection of the facts needed in this course is Professor Abbott's book, **Montana in the Making,** which may be ordered either from the Northern School Supply Company at Great Falls, or from the Gazette Printing Company, at Billings.

Professor McBain's new publication, "Geography of Montana", Northern School Supply Company, Great Falls, is a mine of valuable information for students of Montana geography. Every class should have a supply of these books.

Several copies of the current issue of the World Almanac, World Publishing Company, New York, should be available.

Valuable and highly reliable statistical data can be gathered from the Bulletins of the Fifteenth Census of the United States, 1930. These bulletins are issued from the Government Printing Office in Washington, D. C., as are a number of other valuable bulletins and publications. Teachers, in getting ready for this course. should send to the Superintendent of Documents, Washington, D. C., for a list of these publications. A small fee is charged for them, but they are well worth the money.

A Statistical Abstract is issued each year by the Bureau of the Census, Department of Commerce. This is very valuable.

The Year Book of the Department of Agriculture, Washington, D. C., is an authority on all questions within that department.

Any of the district offices of the Forestry and Reclamation Services will gladly furnish maps, reports, and bulletins regarding their work, or these may be secured from Washington, D. C.

Sources within the state are many. The Department of Agriculture, Labor and Publicity at Helena issues a publication called **Montana** which is a mine of useful information. The issue of 1928 is very complete. If possible, a copy of this issue should be secured and kept for class use. A little bulletin called "Salient Facts about Montana—1931", and "The Montana Farm Review", latest edition published by the Division of Publicity, Helena, will be found very useful in this course.

The State Highway Commission, Helena, issues excellent road maps of the state which may be obtained upon request. Other state departments will furnish copies of their annual reports and special information on request.

The Montana Taxpayers' Association, Helena, issues bulletins (Where the Montana Tax Dollar Goes) that should prove helpful.

A variety of bulletins is available through the Extension Service of Montana State College, Bozeman.

The rich source of information in railroad literature must not be overlooked. Many people do not know that one of the best authorities on altitudes and distances along their lines is a railroad timetable. Every classroom should have a supply. Local agents will gladly furnish them, or they may be secured by writing to the General Offices of the different railroads. The Great Northern and Northern Pacific each puts out a special bulletin, which is called "Montana". It is filled with pictures, maps, and useful data. It is advertising matter which the railroads are anxious to distribute. The Northern Pacific has a folder which is called "What Montana Has to Offer", that contains a splendid map of the state, laid out to show the Township Survey. The Northern Pacific has two other publications, "The Storied Northwest" and "2,000 Miles of Scenic Beauty" that are very useful. These, together with the two Great Northern publications, "Historic Adventure Land of the Northwest" and "From the Car Window", should be in every classroom where this course is being attempted.

Montana in Rotogravure (Greenfield Advertising Agency, 60 East Granite Street, Butte, Montana) is a little booklet of value to this course. The State Department of Public Instruction has a supply of this bulletin that may be drawn upon as long as it lasts.

The daily and weekly papers of the state contain many valuable articles. A clipping bureau might well be operated in connection with this course. In general, it may be said that poverty or richness of material for this work will depend largely on the energy and enthusiasm of teachers and students in the work of getting things together.

Two books that may be found in many libraries are Kate Hammond Fogarty's "The Story of Montana" (A. S. Barnes Company, Chicago, 1916), and Katharine Berry Judson's "Montana, The Land of the Shining Mountains" (A. C. McClurg and Company, Chicago, 1916). These books are old but filled with facts of interest to the student of Montana history. They are written for children and so the language will cause no difficulties.

Outline for Study (in detail)

I. Outstanding Facts of Montana Geography

Leading question: What should I know about the geography of my home state?

A. Fact questions

1. On its northern boundary, Montana measures how many miles from east to west? How many degrees of longitude? How far is it from the southeast corner of Montana to Canada? How many degrees of latitude? How far from this southeast corner to the northwest corner of Yellowstone Park? What is the longest possible north-south distance in Montana?
2. How does Montana rank in size among the United States? How does it compare with the largest and smallest states? It contains what fraction of all the land under the authority of the United States? What part of the people?
3. Trace the Continental Divide across the state. How many drainage areas do you find? In which is the capital located? The State University? Many Glaciers Hotel? The State Normal College? Your home county?
4. Name and locate ten mountain ranges, five highest peaks, and five mountain passes. What point in Montana has an altitude nearest to sea level? Which county has the highest average altitude? Which the lowest? What is the average altitude for the entire state? How does Montana compare in this respect with each of her neighboring states?
5. What facts about the geologic history of the state and of the entire region are revealed by variations of relief and altitude? Cite some of the evidence on which your conclusions are based? What evidence have fossils contributed to this tale of geologic history?
6. What are the controlling factors that enter into the making of Montana climate? Which is nearer to the equator: Helena, Montana; London, England; or Vladivostok in Siberia? Compare their average summer and winter temperatures and rainfall, and account for any differences that you may discover.

B. Problems

1. The variations of relief and altitude, referred to in questions 4 and 5, above, cause what differences in plant, animal and human life?
2. Consult a map of Montana that shows the township survey. Work out as closely as possible in percentage the fraction of the state in each of the drainage areas. (A good township survey map is given in the Northern Pacific folder "What Montana Has to Offer".)
3. Of the mountain passes that you have located which have played important parts in the development of Montana? In what ways?
4. Using the part of the western boundary of Montana that is on the 116th meridian as a unit and calling it "I", work out a formula for laying out a map of the state, correct as to scale, and of any desired size.

C. Projects

1. Lay out an outline of Montana on squared paper, correct as to scale. Within this outline, lay out blocks to represent the largest possible number of other states of the Union. On another similar outline, show the greatest possible number of nations of Continental Europe. Be sure to put in the name of each state or nation.
2. Draw a profile, or cross-section graph, of Montana from north to south on the 110th meridian, showing variations of altitude. Draw another, showing the same facts from east to west on the 46th parallel.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Publicity Booklet, Montana, published by Montana Department of Agriculture, Labor and Industry
Timetables of transcontinental railroads
Bulletins of U. S. Geological Survey
School atlases and encyclopedias

II. Montana Mountains

Leading question: What do the mountains mean in Montana life?

A. Fact questions

1. What is the meaning of the state name? When and by whom was it conferred?
2. What are the principal and what the lesser mountain ranges of Montana? Recall the names of the five highest peaks? Compare them with the highest points in the Himalayas, The Andes and the Alps. How does the Continental Divide across Montana compare in average altitude with these mountain ranges?
3. Permanent settlers came first to what part of Montana? Why?
4. Which counties of Montana lead in the production of minerals? Why?
5. How many of the eighteen large cities of Montana are located in the mountain region of the state?
6. Where is the greater part of the forest land of Montana located? Account for this fact.
7. What facts of geography and relief are responsible for the location of the transcontinental railroads and Federal Aid highways that cross Montana? Will these facts mean anything in the location of commercial airways?
8. Is there any relation between the mountains of Montana and the five-cent tax on gasoline?
9. What bearing do the mountains have on the supply of power available for human uses?
10. What bearing do the mountains of Montana have on Montana climate?
11. Is the recreational aspect of mountain life an asset of value? Prove with figures. Why do tourists and "Dudes" comes to Montana for the summer?

B. Problems

1. The Pyrenees mountains caused the development of two separate nationalities. Are they as much of a physical barrier as the Continental Divide from Glacier Park to Gibbon's Pass? Why have the political results not been the same in Montana?

2. Why is irrigation feasible in valleys such as those of the Bitter Root and Yellowstone Rivers in Montana, but not in valleys such as those of the Red River in North Dakota or the Platte River in Nebraska?
3. Has the altitude of Montana mountains and their foothills had any bearing on the development of livestock in Montana? (Especially consider horses and sheep.) Does it affect human beings in a similar way?
4. Of the transcontinental railroads that cross Montana which has the easiest route through the mountains? Prove by actual figures. Was this the first of the transcontinental lines to cross Montana? Why was this easy route not occupied earlier?

C. Projects

1. Make up a table of all Montana counties, grouping them under the three headings below. Every county shows variations of altitude, but use the figure that seems to be the average in each case.
   a. All plains up to an altitude of 3,000 feet
   b. Foothills region, 3,000 to 4,000 feet
   c. Mountain region, above 4,000 feet

   Include in this table the area of each county, and its population in 1930. Work out the per cent that each region is of the entire state, and the fraction of the total population of the state that it contains. In proportion to area, which of the three sections has the largest population?

D. References

Abbott, Montana in the Making
McBain, Montana Geography
Publicity Booklet, Montana, published by Montana Department of Agriculture, Labor and Industry
Population Bulletin, Fifteenth Census of the United States, 1930
Statistical Abstract
Bulletins U. S. Geological Survey
School Geographies

III. Montana Wild Life

Leading question: What have the native plants and animals contributed to the making of Montana?

A. Fact questions

1. What reliable evidence have we regarding the abundance of plant and animal life in primitive Montana?
2. What trees and shrubs are found in the plains region of Montana? In what ways did they influence the life of the Indians and early settlers?
3. Name the principal trees of the mountain region, and the grasses and other plants that furnish food for grazing animals.
4. What peculiarity of Montana climate makes the native grasses valuable for feed practically throughout the year? How was this fact discovered by the early pioneers? How has it influenced Montana life?
5. What did the early explorers report about the number of ruminating animals, especially buffaloes, in this region? What river was called by the Indians, "The River of the Elks"?
6. In what ways was the buffalo a maker of Western History?

Were the Indians able to hunt the buffalo before they had horses? How?

7. What was the first article having a cash value to be sent out from Montana? What motives prompted the first explorers, after Lewis and Clark, to come to the Northwest? Why did they not come sooner?
8. Which of the fur-bearing animals of the West was most highly prized? Why? Where were they numerous in Montana? Did this fact have any important bearing on early Montana history?
9. What other fur-bearing animals were numerous in Montana?
10. When, where, and by whom were the first buildings erected by white men in the plains area of Montana? In the Columbia Basin?
11. Why should fur trading history in Montana be thought of as falling into two periods? Who were some of the great characters of each of these periods? In the latter period of this era, how was this business controlled in each of the two regions of Montana?
12. Is the fur trade of any importance in the life of present-day Montana? Prove with figures.
13. What were the three best-known places in Montana in 1860? Why?
14. What methods of transportation were used by the fur traders? What development of this period was highly useful in the period that followed?
15. Are there any native birds in Montana? Name some of them. What is being done at the present time to keep them from becoming extinct?
16. What is being done at the present time to keep the fishes of the state from extinction?

B. Problems

1. Is the reason for the high price of beaver skins the same as it was in the great days of the fur trade?
2. Why were the English Companies first in the fur trade of the Columbia Basin region of Montana? This fact had what bearings on later history?
3. How was the fur trade connected with missionary effort in Montana?
4. What native plants were extensively used for food by the Indians?

C. Projects

1. On an outline map of Montana, locate the several posts built by the American Fur Company as it advanced into the Blackfeet country, as well as its posts on the Yellowstone; British posts; St. Mary's mission and the Mullan Road.
2. On an outline map of Montana, locate the principal forest areas and the best grazing regions.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Publicity Booklet, Montana
Wild Animals of North America, National Geographic Society
F. E. Clements and E. G. Clements, Rocky Mountain Flowers. H. W. Wilson Company, New York. 1914

IV. Montana Streams

Leading question: Is water an important factor in Montana life?

A. Fact questions

1. What three great river systems drain Montana? Learn the main and tributary streams in each drainage area in such a way that you can easily recall them. When is there the most water in Montana streams? Why?
2. What is the average annual rainfall in the plains and in the mountain regions of Montana? Why is it variable, even in the mountains? Is the seasonal distribution of precipitation an advantage or a disadvantage?
3. Name and locate all the lakes of any size. Why are they scarce? Which are of especial interest to tourists? Why? Which are valuable sources of water power?
4. How did irrigation begin in Montana? About when? Name and locate all of the Reclamation Service irrigation projects in Montana and at least two that have been developed through private initiative. What city profits from nearness to each one of these large irrigation projects?
5. Name five places where power in falling water is being made use of through hydroelectric plants. What fraction of Montana's possible resource in water power is being utilized? What large project of this kind has been under recent construction?
6. What fraction of Montana can be successfully irrigated? Of this fraction, what part has been brought under development? Is most of this land located in plains, foothills or mountains?
7. What lessons of moisture conservation has experience taught the farmers of Montana, especially in the benchland regions?

B. Problems

1. What forms of specialized farming in Montana has irrigation made possible? What special social, educational, and political problems have been brought into Montana life by these developments?
2. In horse-power already developed, what are the resources of Montana in hydroelectric energy? This amounts to how much per capita? How is this power being used? In what ways could more of it be used?
3. What part have Montana streams had in determining routes of travel and the distribution of population?
4. Lewis and Clark estimated the length of the Missouri river between Three Forks and the 104th Meridian as 968 miles and that of the Yellowstone from about Livingston to where it joins the Missouri as 635 miles. How great is the average fall per mile of these rivers? What bearing does this fact have upon life within their valleys?

C. Projects

1. By means of a graph, compare the water power, developed and available for use, per capita in Montana, the United States, Canada, Italy and Sweden.
2. On an outline map of the State, show the locations of the principal irrigation projects and hydroelectric plants.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
World Almanac
Publicity Booklet, Montana. Latest edition
Timetables of transcontinental railroads (for altitudes)
Census Bulletins, 1930 Population
Agriculture Bulletins and Reports
Reports of Montana Power Company, Butte
Sanders, History of Montana
Americana and New International Encylopedias
School Atlases
Bulletins, Montana State College

V. Montana Trees

Leading question: Are trees an important part of Montana life?

A. Fact questions

1. What part of Montana is forest land? Of this, what fraction is under national, state, and private control?
2. What is a Forest Reserve? Name and locate the State and national forest reserves. To whom do they belong and how are they managed? What becomes of the income derived from them?
3. Name ten native trees of Montana. Tell where each is found and why it is useful. Which one has been selected as the state tree, and why?
4. What relation is there between the Forest Reserves and the grazing industry in Montana? Express this relationship in numbers.
5. How does Montana rank among the United States in value of lumber output? Which is larger, home consumption of forest products or export trade?
6. The lumber industry ranks how among the manufacturing industries of the state? It gives employment to what fraction of its gainful workers? Name five cities or towns supported largely by this industry.
7. What type of forest growth is common along the streams in the plains area of Montana? Why are the poplars and cottonwoods very numerous in these localities?
8. What trees and shrubs are found in the upland valleys of the mountain region? What bearing has their presence had on Montana History?
9. Who is the largest owner of privately controlled forest land in Montana? What is done with the forest products from these holdings?
10. Trees foreign to Montana have been introduced and made to thrive in what parts of the state? With what valuable economic results?

B. Problems

1. In what ways are the forests a great help in the construction and profitable operation of the transcontinental railroads that cross Montana?
2. Would private ownership be preferable to the present plan of control and management of Montana forests? State your reasons.
3. What relation is there between the national forest reserves, in fact, all forest reserves, and successful agriculture in Montana?
4. Does it seem probable that the forests will continue to be an important factor in Montana life for some time?

C. Projects

1. Draw a square block graph to represent the area of Montana. Within it show the fraction that is forest land, and of this, the part that is under national, state and private control.
2. Many of Montana's best trees are in inaccessible places and can never be brought out to market. (See Publicity Booklet, **Montana**, 1928. p. 161) Draw two trees. Call one of them "State and National Forests" and the other "Private Forests". On each show the fractions that can be logged and brought out to market.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Publicity Booklet, Montana. Latest edition
World Almanac
Bulletins of U. S. Census. 1930. Population
Agricultural Bulletins
Maps and Bulletins of U. S. Forest Service

VI. Montana Indians

Leading question: Do the Indians deserve a place in the record of Montana life?

A. Fact questions

1. Was primitive Montana a favorable environment for Indian life? Explain.
2. When the first explorers came to this region, what Indian peoples were found here? Locate each tribe and tell how they received these first white men.
3. When did the United States begin its policy of dealing with the Indian tribes through treaties? Why was this plan used? Why was it not a success? When and where were the first treaty agreements made with the Indian tribes of the Montana region? Who signed for the Government?
4. When and where were the first efforts made to carry Christian teaching to the Indian tribes of Montana? How has this work since been extended?
5. What effect did the discovery of gold in the mountain West, including Montana, have on the life of the Great Plains Indians and those in Montana?
6. When and why did Indian affairs in the Northwest come to a crisis? What events of this period are suggested by these names: New Ulm, Washita, Killdeer Mt., Fettermann, Crook, Miles, Red Cloud, Washakie, Sand Creek, Ash Hollow?
7. What dramatic happenings of this period are very familiar in Montana History? Which of these is probably the best known? Locate the place where it happened and fix in mind the date. How is the memory of it kept green in place names and otherwise in Montana?
8. What changes in the life of the Indians grew out of this period?
9. How did the government make provision for the permanent control of the Great Plains Indians? How was Montana life affected by these measures?
10. Name five Indian chiefs and at least one Indian woman who have figured largely in Montana life, and tell the reason for naming each of these.

B. Problems

1. What Indians are still living in Montana? Where are they located? Are they increasing or diminishing in number?
2. Is there a prospect that Montana Indians will eventually become citizens on an equality with white people? How?
3. What is folklore? What Montana Indians have worthwhile folklore? Tell a folklore story.
4. Make up the longest possible list of Indian names that have been attached to places in Montana, as counties, rivers, towns, streams, etc.

C. Projects

1. Consult the Census Bulletin, Montana Population, 1930. Make up a table for all of the counties in which there are 300 or more Indians. Show in your table:
    a. Number of Indians
    b. Tribes to which they belong
    c. Number of illiterate Indians
    d. Per cent of Indian illiteracy

    The number of illiterate Indians in each county can be found by subtracting from the total illiterates, the number of white and negro illiterates. Foot up the table and find the average Indian illiteracy for the state. How does it compare with Negro illiteracy throughout the United States and with illiteracy in foreign countries, such as in Italy and Spain. Which Indian tribe in Montana is doing the best work to overcome its illiteracy?

D. References

Abbott, Montana in the Making
Fogarty, Story of Montana
Census Bulletin, 1930. Population
References to books on Indian Life, Montana in the Making, pp. 48 and 330
World Almanac
Statistical Abstract

VII. Montana Beginnings

Leading question: How did Montana come into existence as an organized political unit?

A. Fact questions

1. What nation was the first to claim sovereignity over any part of what is now Montana? What was the basis of this claim? For how long was this sovereignity maintained?
2. When Washington was President, Spain controlled what part of present-day Montana? Had anything been done to explore or occupy it? Why?
3. Why was the year 1800 an important one in Western History? On the part of the United States what reasons prompted the Louisiana Purchase? When was it made and when did the sovereignity of the United States over that part now included in Montana begin? Was your home county a part of it?
4. Study the history of the Lewis and Clark expedition, especially while it was in Montana. Was this an important event in Montana life? Explain.
5. What natural conditions made Montana a part of two different units of government before the days of Montana Territory?

6. By what different names was each of these units known from the beginning of the authority of the United States over them down to 1864?
7. How and when was all of Montana's northern boundary made definite?
8. What was included in the Idaho Territory of 1863? In the Dakota Territory of 1864 to 1868?
9. What conditions made the formation of Montana Territory a necessity? Name two men who did good work in bringing this about? When did the official history of the Territory begin? Who was the first governor and by whom was he appointed?
10. How was life in the early days of Montana Territory and before this period, affected by the great national struggle that was then going on?
11. Why was there a need for strong government in Montana in those times? What efforts had been made to meet the problem, and did they succeed?

B. Problems

1. How did the United States get its right to all of the land that is now Montana?
2. A letter sent to Fort Union in 1855 would have been addressed in what way? To Fort Owen in 1858? To Fort Benton in 1860? To Bannack in 1862?
3. Did the Lewis and Clark expedition pass through or along the borders of your home county?
4. How long did the entire journey of the Lewis and Clark party take? Work out their daily rate of travel, not overlooking time spent in camp. How much of their entire time was spent in Montana? (The distance each way may be considered roughly as 4,000 miles.)

C. Projects

1. On a series of six outline maps of the United States, show how the country between the Mississippi River and the Pacific ocean was organized in 1819, in 1850, in 1855, in 1861, in 1863 and in 1865.
2. On an outline map of the United States, show the Louisiana Purchase; the entire Lewis and Clark journey, their winter camps; where they entered and left Montana; Great Falls, Three Forks, Lo Lo Pass, and Horse Prairie.
   (Be sure that the Louisiana Purchase boundaries are correct)

D. References

Abbott, Montana in the Making
Marshall, American History
Fish, History of America
Paxson, History of the American Frontier
Shafer, History of the Pacific Northwest
Brosnahan, History of Idaho
Thwaites, Lewis and Clark Journal

VIII. Montana Territory

Leading question: What did the pioneers of territorial days do to lay the foundations of present-day Montana life?

A. Fact questions

1. How many years does the history of Montana as a Territory cover?

2. When and where did territorial government begin to function, and under whose leadership?
3. In what ways did the territorial government recognize and take over the work already done by the Miners' Gulch governments?
4. What plan of local government was set on foot by this first law-making body? Why was this plan chosen? Is it still in use? How many of these units of government were set up? How?
5. Which were the first incorporated cities in Montana? Among the cities and towns provided for at that time, which ones are still alive and which are counted among Montana's "Ghost Towns"?
6. What had been done toward the establishment of schools before the territorial government began its work? How was this work advanced by the First Legislative Assembly?
7. Who was the leading educational pioneer of territorial times?
8. In early territorial days, what was the attitude toward public expenditures? Why? How did this attitude change in the years that followed? Why? How were the lessons of these days applied when the work of planning a state government was taken up?
9. Did Montana gain or lose in population between 1865 and 1870? Why?
10. What opportunities for higher education were open to the youth of the Territory of Montana?
11. What events happening between 1875 and 1889, changed the nature of life in the Territory of Montana most profoundly?

B. Problems

1. Compare the requirements set up for a teacher's certificate by the first legislature with those in force at present.
2. Judged by the sources from which income was derived, was Montana a mining, a stock-raising or a farming community in the days of the Territory?
3. Why was the struggle over the location of the capital so long and bitter and why did Helena finally win?
4. The development of what valuable permanent resources of Montana was begun during Territorial times?

C. Projects

1. On a scale twice its legal size, draw a correct copy of the seal of the Territory. Draw a similar copy of the present state seal.
2. On an outline map of Montana, draw in all of the railroad lines that were in operation when Montana ceased to be a Territory.

D. References

Abbott, Montana in the Making
Sanders, History of Montana
Stout, History of Montana
Fogarty, Story of Montana
Montana Code
Session Laws, First Legislative Assembly, Montana Territory
Leeson, History of Montana

IX. The State of Montana

Leading question: Is Montana a strong and well-organized state?

A. Fact questions

1. What special meaning for Montana people has Washington's birthday?

2. Citizens of Montana who lived in it as both Territory and State, enjoyed what rights and privileges in the latter period that they did not have in the former? In what respect was there little difference?
3. What are the several steps through which full statehood was achieved? What presidents were connected with it, and in what ways? What is the date of Montana's birthday? Which is Montana's star on the flag?
4. Who was the first governor of the State of Montana? Name the men who have followed him. What are the governor's chief duties and responsibilities?
5. Who were Montana's first United States Senators? What peculiar circumstances were connected with the choice of these first senators, and what can be learned of Montana politics from these circumstances? Who are the present senators? Are they of the same political party as the first ones?
6. Why is Montana often spoken of as a "Doubtful State" politically?
7. What liberal aid for schools was provided by the National Government when the state of Montana was established? How was this gift protected? What have been the results from this gift down to the present time?
8. What important events in Montana history date from the year 1893?
9. Name and describe the work of five state boards or commissions.
10. What was done in 1913 to unify the work of higher education in Montana?
11. Why is highway construction a very important question in Montana life? What was done to assist this work in 1913, 1921, 1927, and 1931?
12. How did Montana men demonstrate their patriotism in 1898?
13. How did the service of Montana people in the crisis of the World War compare with that of other citizens of the Nation?
14. How does Montana take care of her insane, blind, deaf, feebleminded, criminals, orphans and youthful delinquents?

B. Problems

1. When was your home county established? What is its rank among Montana counties in size, population, average wealth, density of population?
2. What valuable laws have been enacted by the State of Montana in the interest of Montana children?
3. When has the governor of Montana found it necessary to use his powers as commander of the armed forces of the state, and for what purposes?
4. Describe the beginnings of each of the units of the University of Montana. Why were they not all placed together in one central location?

C. Projects

1. On an outline map of Montana, divide the State into four parts by drawing lines on the 110th meridian and the 46th parallel. Estimate the population of each quarter of the state. Locate all of the State Institutions. Are the institutions well located, according to the present population?
2. Construct a graph to show the average daily attendance in the elementary and secondary schools of Montana from 1889 to 1929. (See World Almanac, 1931, p. 403.)

D. References

Abbott, Montana in the Making
Manning, Montana Civics (In Reed, Loyal Citizenship. World Book Company, Chicago)
Sanders, History of Montana
Stout, Montana History
World Almanac
Report of the Commissioner of State Lands and Investments, 1930. Helena
McBain, Geography of Montana

X. Montana Mines

Leading question: What has metal mining meant in the Montana life of the past, and what may it mean in the Montana life of the future?

A. Fact questions

1. What are the different periods of mining history in Montana?
2. What is the meaning of the Spanish phrase on the State Seal? How did it happen that a phrase of this kind was selected for the seal?
3. Name the man or men, the date and the place in Montana, associated with each of these: First gold discovery, first sluices, first big find of placer gold, richest placer location, first paying silver mine, first copper mine.
4. Was the finding of precious metals in Montana at a period comparatively early or late in mining history? Why? In what sense was mining for the precious metals a new phase of American pioneering?
5. How were the early mining camps of Montana organized and governed? Why did they attract many rough characters? Who were the "Innocents"? Who was their leader? Why did they prosper for a time?
6. What methods were used in ridding the Montana gold camps of these undesirables? How long did it take to do this?
7. Which was the greatest year of all in the output of gold in Montana?
8. Why was the development of silver more slow than that of gold?
9. What "Ghost Towns" recall some of the great days of gold and silver?
10. How did silver mining lead to the development of copper?
11. What is the source of most of the silver and gold now being produced in Montana?
12. Which of the five largest cities of Montana are intimately connected with the copper industry? In what ways?
13. How have the mines of Montana helped in the development of the farms and ranches of the state?
14. What other valuable and useful metals are mined in Montana? Where?

B. Problems

1. The product of the metal mines represents what fraction of the State's wealth? The metal mines employ what part of the state's gainful workers?
2. What was the connection between the presidential election of 1896 and the decline in silver mining in Montana and elsewhere?

3. In what ways were Marcus Daly and W. A. Clark pioneers in the work of metal mining in Montana? Did they profit from their own efforts?
4. Why has the Anaconda Copper Mining Company located its great refining and manufacturing plant at Great Falls, a long ways from its copper mines?

C. Projects

1. On an outline map of Montana, locate at least five of the early placer mining camps; two gold-quartz mining towns that are now "Ghosts": two silver mining locations; the "Richest Hill on Earth"; and three great smelting, refining, and manufacturing plants of the Anaconda Copper Mining Company.
2. Construct a graph to show the place of gold, silver, and copper production in Montana from 1860 to 1930.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Stout, Montana History
Sanders, History of Montana
Publicity Booklet, Montana, 1928, or any other year
World Almanac
Census Bulletins, 1930. Population
Fogarty, Story of Montana

XI. Montana Ranches

Leading question: Easterners think of Montana as chiefly a ranching state. Is their opinion a correct one?

A. Fact questions

1. What natural conditions are very favorable for the raising of cattle, horses, and sheep in Montana? Is the location of the State, with reference to markets, a favorable or unfavorable one?
2. What were the beginnings of the cattle-raising industry in Montana. Why was it not very active before 1880?
3. How do the types of cattle being raised and the methods used in the State today compare with stock and methods of these early years?
4. What conditions in Montana and elsewhere made the great days of the open ranges in Montana possible? When and why did these days come to an end? How has Montana life been affected by the open range?
5. How did the cattle population of Montana in 1930 compare with the number in the Territory in the greatest days of the open range? The 1930 figure represents what part of the cattle population of the United States?
6. Which are the best cattle-raising counties of Montana? Why?
7. In any year for which you can secure figures, find what part of the State's annual income the value of the livestock products represented.
8. How large is the average beef herd, the average dairy herd, and the average band of sheep in Montana?
9. Were sheep or cattle more valuable to the pioneers in Montana before the coming of the railroads? Why?
10. When were horses most numerous in Montana? What caused the "boom" in horse raising? What is the present outlook for horses in Montana?

11. What "brands" have been left on Montana life by the range industry? How has the record of this life been made permanent by Montana authors and artists?

B. Problems

1. How do the fleeces of Montana sheep compare in weight with the general average of fleeces throughout the United States? Explain differences.
2. The average annual consumption of wool per capita in the United States is about 3 pounds. Montana's clip for 1930 would take care of the needs of the people in Montana and of what other state?
3. In its gradual extension over Montana in what direction did the range industry move? Why?
4. Make up the longest possible list of words and expressions that have come into Montana speech along with the grazing industry? Many of them have come from what language other than English? Why is this?

C. Projects

1. On an outline map of the United States, trace the route of the Texas Trail, locating the principal towns on the way
2. Draw a picture of a small band of sheep to stand for the wool crop of the United States in 1930. Distinguish, in some way, the part of this crop that came from Montana.

D. References

Abbott, Montana in the Making
McBain, Montana Geography
Osgood, The Days of the Cattle Man
Publicity Booklet, Montana
Census Bulletins. 1930 Population, Agriculture
World Almanac
Statistical Abstract

XII. Montana Farms

Leading question: Is Montana a farming state?

A. Fact questions

1. What does the state seal show about the opinions of Montana pioneers as to the possibilities of farming in this region?
2. Of all of the people in Montana, who are engaged in gainful occupations, what per cent work on farms? This would mean that in any average crowd of 1,000 working people in the state, representing the general average of all occupations, there should be how many farmers?
3. Where did farming in Montana begin? When? Why did it develop very slowly at first? What was the most profitable grain crop before 1880? Why?
4. During what per cent of the time is the sky clear in Montana? What bearing has this on Montana agriculture? What incidents of the weather mark the beginning and the end of the growing season? How long is it in your home county? Where in Montana is the growing season longer and where shorter? Why?
5. When did the value of the products from Montana farms and ranches pass the value of the products of Montana mines and forests?
6. When was the "Homestead Boom"? Was it a good or bad thing for Montana? Why?

7. What is the basic principle of dry-land farming? What relation is there between the extension of dry-land farming and the decline of horse-raising?
8. How large is the average Montana farm? What has happened to this figure since 1920? Why is this?
9. Taking land and buildings together, what is the average Montana farm worth?
10. In price and productivity, how does the irrigated land of Montana compare with its dry-land areas?
11. How does Montana rank among the states of the Union in the production of wheat? Is more of this winter or spring wheat? Why?
12. Why do potato-raisers in southern states, such as Texas, send to Montana for their seed? Which is Montana's best potato-raising county?
13. Which is the leading county of Montana in hay production? Is man or nature chiefly responsible for this leadership? Explain.

B. Problems

1. The average person in the United States consumes annually three bushels of potatoes. In 1929, the Montana crop was sufficient to supply the potato appetites of the home state and of what other state?
2. Outside of potatoes, what was the most valuable vegetable crop in the state in 1929? If you were a cannery expert, and wanted to put up a plant to can peas, what would be your first, second, and third choices of locations? Why?
3. Six pounds of sugar beets will make one pound of sugar? How much sugar did the average citizen of the United States consume in 1929? The Montana crop of sugar beets in that year was enough to satisfy the sweet tooth of the home people and to nearly supply what two large cities in Minnesota?
4. Was the production of eggs in Montana in 1929 enough to give each person in the state one for breakfast every morning of the year? Would the egg crop in your home county do this?

C. Projects

1. On a sheet of squared paper, lay out a block to represent all of the land in Montana. Show the part that is in farms, and of this, the fraction that is operated by owners, by managers and by tenants.
2. By means of graphs, show the relation of owner and tenant farming in Montana covering the periods of 1920, 1925 and 1930.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Publicity Booklet, Montana, 1928
Census Bulletins, 1930 Population, Agriculture
Bulletins, Montana State College
World Almanac

XIII. Power in Montana

Leading question: Is Montana well supplied with sources of power to do the work of the present and of the future in this state?

A. Fact questions

1. Why is coal found in nearly all parts of Montana?
2. Where are the best coal fields located? When did their development begin? Who are their best customers?
3. Why is there not a more active market for Montana coal?
4. What cities of Montana have grown up largely through the development of the coal mining areas?
5. How do Montana mountains help in the mining of Montana coal?
6. How has the usefulness of Montana mountains as sources of power been greatly increased by the work of such men as Steinmetz and Edison?
7. What fraction of the possible water power of Montana is being utilized?
8. If rates were lowered in Montana, in what ways could the use of electrical energy be greatly increased?
9. Name five of the principal oil fields in the state with a leading city in or near each one.
10. Where and when were the first oil wells in the state found? Name six cities in which crude oil is refined. What product is made?
11. What are the principal uses to which natural gas is put? Where in the state are large pipe lines used for the purpose of carrying gas? What Montana city controls the distribution from the largest natural gas field in the state?

B. Problems

1. Why are the various sources of power of more importance to the people of Montana today than they were in territorial days?
2. Why does such a large part of the electrical energy used in the state come from Great Falls?
3. Why is it a wasteful process to mine coal and to haul it long distances before the energy stored in it is utilized? Is there any way by which this waste could be avoided?
4. How has the development of the important coal deposits in Montana been connected with the growth of Montana's railroads?

C. Projects

1. Draw pictures of two electric light bulbs, of such sizes that one will represent the average amount of electrical energy used per capita in the United States and the other the average amount used by each person in Montana.
2. On an outline map of Montana locate by means of shading, the important coal fields now under development; by coloring, the important oil fields; by stippling with dots, the important gas fields. Show the principal gas pipe lines and the cities that they serve.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Publicity Booklet, Montana, 1928
Bulletins of Fifteenth Census. 1930 Population
Bulletins, U. S. Geological Survey

XIV. Montana Highways and By-Ways

Leading question: What has been done in Montana to overcome the difficulties of great distances?

A. Fact questions

1. What was the first great route of travel used by the pioneers in reaching the Northwest? For how long did it continue to be a popular route? Where was its end in Montana? Why is it not used today?
2. In the days of the "Covered Wagon" what routes did the pioneers follow in their travels to and from the Montana region?
3. Who built the first government road in Montana? Where and when? Why was it built? What fixed the route that it followed? What has it had to do with history?
4. When and where did railroad history in Montana begin? Which was Montana's first transcontinental railroad? When was the Great Northern completed across Montana? When was the Milwaukee built through the state?
5. Which of the three transcontinental railroads that cross Montana has the longest main line? Which has the greatest number of miles of track? Which has the easiest route across the mountains? Prove by figures. Name the "crack" train on each road? Which one makes the fastest average time westbound across Montana?
6. Which was the first Montana railroad to be operated by electrical power? Which one uses that power most extensively today? Is this use successful?
7. Of what value is the Burlington in the transportation system of Montana?
8. How are the highways of Montana managed and financed? What is the present objective of the state highway program?
9. What is a Federal Aid Highway? Locate five in Montana by number. What is a Forest Highway, a State Highway, a County Highway, a Trail?
10. How did Montana people show their strong desire for good roads on May 5, 1931?
11. When both Federal Aid Highways No. 10 and No. 2 are completed, how will they compare in length and in usefulness for tourists, for commercial travelers, for farmers, and for stockgrowers?
12. Where in Montana are commercial airways in operation?

B. Problems

1. Is it the proper thing for the National government to give large sums of money to aid the construction of roads wholly within Montana? Why?
2. What landscape features have had an important bearing on the location of travel routes across Montana? Where are some of the railroads very close together? Why?
3. How do the facilities for east-west travel across Montana compare with those for north-south travel? Why is this? Count the number of highway bridges across the Missouri and the Yellowstone. Explain differences.
4. Make a list of things that might be found in an eastbound freight car loaded in Montana; in westbound freight cars billed to points in Montana; in through freight cars routed across Montana east and west.

C. Projects

1. Show graphically a comparison of Montana with Canada, Illinois, Belgium and Japan in regard to:
   a. Number of miles of railroad for each 1,000 people
   b. Number of miles of railroad for each 100 square miles of territory

2. Set down this legend on a sheet of paper: "Comparisons of Telephone Service". Draw eight circles of equal size. Label them: Montana, United States, California, North Dakota, Ohio, Canada, Germany, France. In each, place the number of dots necessary to show the average number of users for each telephone in the state or country named.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Timetables of Great Northern, Northern Pacific and Milwaukee railroads
Maps issued by State Highway Commission and various oil companies
World Almanac
Bulletins, Montana Taxpayers' Association, Helena

XV. Montana Cities

Leading question: Do Montana cities figure largely in the life of the state?

A. Fact questions

1. According to the Federal census of 1930, there are how many cities in Montana? Name them in order of size.
2. According to Montana statutes, and using the figures of the 1930 census, there are how many cities in the state? How are they classified? How many in each class? Is your county seat a city, and if so, of what class?
3. For how long has the capital city been in its present location? Where was the capital formerly located, and why did it not remain there?
4. The five largest cities of Montana contain what per cent of the population of the state? Account for the growth of each of these five cities.
5. Which cities owe much of their growth to the fact that they are important railroad terminals? Compare the three largest cities of the state as railroad centers, basing your comparison on the number of passenger trains that arrive at and leave from these cities daily.
6. What cities are important centers of the coal-mining industry?
7. Name four cities that are important centers of the oil industry.
8. Name the cities of the state that are important lumbering centers and account for their locations.
9. Name four cities where sugar is manufactured in large quantities and tell why the factories are located in these cities.
10. Name three cities that are centers of the orchard industry, and tell what orchard products are shipped from each.
11. Which cities of Montana are most typical of the "Old West"?
12. Which is the most distinctly industrial city of the state?
13. Which of the state institutions are located in or near cities? Give the class of the city in each case.
14. Did city population increase or diminish in Montana between 1920 and 1930? What may be said about the population of the entire state during the same period?

B. Problems

1. Why does Montana have a greater proportion of city population than any of its neighboring states?
2. Why does practically every business firm of any size on entering the business field of Montana from the outside, first open a headquarters in Butte?

3. Name three "Ghost Cities" that once were places of importance in Montana life but are now practically dead. Why is this?
4. Is there any other city in Montana that would, in your opinion, be a better location for the state capital? Explain.

C. Projects

1. Rule off a sheet of squared paper in eight columns of equal width and length. Label them: United States, Montana, North Dakota, Wyoming, Idaho, Ohio, Canada, France. In each show the per cent of the population that is urban and rural.
2. To organize your own thinking with reference to the eighteen largest cities of Montana, make up a table, listing the cities in order of size, and showing for each one:
   a. What fixed its location?
   b. Its special industries
   c. The per cent its population is of the total population of the state
   d. Its percentage of growth since 1900

D. References

Abbott, Montana in the Making
McBain, Montana Geography
Publicity Booklet, Montana, 1928
Railroad timetables
Census Bulletins, 1930 Population
World Almanac

XVI. Montana People

Leading question: In travelling about in Montana, what kinds of people will one meet?

A. Fact questions

1. How many times greater is the present population in Montana than the number when the first census was taken? Which census period has shown the greatest per cent of growth? Which the least? In each case tell why.
2. How many people are there per square mile in Montana? How does this compare with the average for the entire United States? With that in each of the states that borders Montana? With Rhode Island? With Germany and Japan?
3. Which counties of Montana have an average density of over six to the square mile? Why? Which one has less than one inhabitant per square mile? Why?
4. In its proportion of foreign-born people how does Montana compare with the average for the United States? With Massachusetts, Tennessee and Oregon?
5. How many foreign countries are represented in the Montana population? Name in order the six most numerous groups of the foreign-born in Montana in 1930.
6. Among the gainful workers, as shown in the Federal Census returns, which are the five most numerous occupation groups?
7. Name five occupation groups in Montana that are engaged in creating wealth by developing natural resources and five groups that are based on service to others and supplying the needs of their fellow men.
8. Do families in Montana average larger or smaller than in the nation as a whole? Gompare Montana in this respect with Virginia, New York, and California.

9. How does the health of Montana people compare with the general average for the entire nation? How would you account for this fact?
10. Compare statistically the chances of a single woman finding a mate in Montana in 1910, 1920, and 1930. Using 1920 figures as a basis of comparison, how about her chances in such states as Massachusetts and Connecticut in comparison with her chances in Montana?
11. What is the per cent of illiteracy in Montana? What is the number of illiterates?

B. Problems

1. If Montana were as densely settled as the average for the United States, how many people would it contain? Do you think it will ever have that many?
2. How would you account for the varying proportions of men and women, as you found them in working out Question 10, above?
3. What forms of specialized farming have been the reason for bringing in new groups of foreign-born people? What new problems have been caused by the coming of these people to Montana?
4. What per cent of Montana population is made up of Indians? Name the six counties that contain the largest groups of Indians.
5. What is the number of illiterates in your county? Your city? (Information may be secured from the County Superintendent.)
6. Prepare a talk on "How to reduce illiteracy among adults".

C. Projects

1. Draw five squares of equal size, each to represent one square mile of land. Call the first one "Montana", the next two any two other states of the U. S. that you may choose, and the remaining two, any two foreign countries. Within each, place a dot for each person per square mile in the state or country that it represents.
2. Construct a graph to show the growth in Montana population from 1870 to 1930.

D. References

Abbott, Montana in the Making
McBain, Geography of Montana
Bulletins, Census of 1930 Population
World Almanac
Statistical Abstract

For information on illiteracy, write to Miss Elizabeth Ireland, Chairman of the Montana Advisory Committee on Illiteracy, Helena, or to the Chairman of the Executive Committee, Mrs. Cora Wilson Stewart, National Advisory Committee on Illiteracy, Department of the Interior, Washington, D. C.

XVII. Montana Education

Leading question: Do Montana people measure up to the national average in education?

A. Fact questions

1. Compulsory attendance laws in Montana show what facts about the value that the people of the state place on education? What

is the difference between a child as counted in the school census and the child to whom the Compulsory Attendance Law applies?

2. What per cent of the entire population of Montana is enrolled in the public schools? How does this compare with the general average for the entire nation? Which state is highest and which lowest in this respect?
3. Give the number of people in Montana engaged in teaching in elementary schools, high schools, colleges, academies, parochial schools; and in the Six Units of the University of Montana.
4. In 1927-8, how many young people were attending the higher institutions of the state? Is this above or below the national average?
5. Name and locate the different units of the University of Montana and differentiate the work of each unit. In what respects is the method of administering higher education in Montana different from the methods used in other states?
6. What educational history was made in Montana in 1920 and 1930?
7. In Montana laws, what provision is made for high school training for students who live in remote and sparsely settled regions?
8. What is done for schools with low taxing power and with resources insufficient to support good schools?
9. How old is the Montana Education Association? How many members does it have? Does it do any useful work for the state?
10. What valuable educational work outside of regular school courses is being carried on by organizations among children and adults in Montana?
11. What changes have occurred in school curriculums in the last ten years? What is the significance of these changes?

B. Problems

1. The figures from Question 3 above show what per cent of all the people of the state engaged in educational work?
2. How many illiterates are there in every 1,000 people in Montana? How does this figure compare with the national average? In Montana are native or foreign-born illiterates in the majority?
3. Do Montana people spend as freely for education as do other Americans? Using the figures for average daily attendance in schools for 1927-8 as a basis of reckoning and counting 180 days as a school year, work out the cost of one day of school for one child in state and nation. How do they compare?
4. Compute the per cent of increase in population in Montana since 1890 and the increase in the number of teachers since 1889, or 1890, if you can find the figures. Which rate of increase is the greater?

C. Projects

1. Draw a square to represent the land given to the common schools of the state by the National Government at statehood. Shade the fraction that has been sold and write within it the figures to show the amount in the fund arising from its sale in 1930, and the annual share of each child in the income arising from this fund.
2. Construct a graph having on it two curves, one to show the growth of population in Montana from 1870 to 1930 and the other to show the growth in average daily attendance in the schools from 1878 to 1928. Compare the answers.

3. Make a list of the school subjects now being offered in any modern high school. How does such list compare with one ten, twenty, forty years ago?

D. References

Abbott, Montana in the Making
Montana School Laws
World Almanac
Report of Commissioner of State Lands and Investments
Report of Superintendent of Public Instruction

XVIII. Montana Culture

Leading question: Are Montana people well up with the times?

A. Fact questions

1. How many daily newspapers are published in Montana? This averages one newspaper for how many people? In this matter of the circulation and reading of the news, how does Montana compare with Massachusetts, Alabama, and North Dakota?
2. What per cent of Montana people are church members? How does this compare with the national average? What are the three leading churches in Montana?
3. Montana averages one public library for how many people? How many books for each 100 of its population? Taking this fact as a measure of reading, how do Montana people compare as readers with the general average for the entire United States?
4. What fraction of all of the people in Montana own radio sets? Are they more numerous in city or country? Are Montana people as well supplied in this respect as the average citizen of the United States?
5. Name and study Montana men who have helped to make permanent the past in Montana life through the pictures that they have painted? What are some of the special characteristics of their paintings?
6. Name three Montana authors of note who have written worthwhile books dealing with some phase or phases of Montana life.
7. What organized groups of women are doing a great deal to stimulate the cultural and thought life of the state?
8. What protection do Montana laws offer to women who work for wages? What restrictions are placed on child labor?
9. What is meant by the statement that "Montana is a doubtful state politically"? Is this a good thing for the state? Explain.
10. What protection do the people of Montana have against hasty or ill-advised action on the part of their law-making body?
11. Is there any indication that Montana's interest in Art and Music is increasing?

B. Problems

1. The average wealth of citizens of the United States has been estimated as about $3,000. How does the wealth of the average citizen of Montana compare with this figure? How does it compare with the average wealth of the people in the states bordering on Montana?
2. The public debt of Montana amounts to how much for each citizen of the state? For what purposes was this debt incurred? Is this average figure above or below the national average?

3. How great is the average contribution of each citizen of Montana to the support of the Federal Government through the income tax? Is this up to the national average? Compare Montana with New York and North Dakota.
4. Are Montana people well-equipped with the means of travel? If all of the people of the state went for one grand joy-ride at the same time, climbing aboard all of the motor vehicles, what would be the average load of such vehicle? On a similar supposition, what would be the average load of each vehicle in the entire United States, in Canada, France, Turkey, Australia?
5. Make a list of amusement houses in your city. How well are lectures, musicales, etc., attended? Does your county have an annual fair (rodeo)? Is the State Fair well-supported?

C. Project

1. Draw a picture of two houses, one to represent the number of Montana houses owned by the people living in them, and the other, the number that are occupied by tenants. Below this draw two similar houses to represent the same situation for the entire United States.

D. References

Abbott, Montana in the Making
World Almanac
Census Bulletins, 1930 Population
Publicity Booklet, Montana, 1928, or later editions
Bulletin (Where the Montana Tax Dollar Goes) Published by the Montana Taxpayers' Association, Helena

COURSE OF STUDY

State of Montana

HIGH SCHOOL

Commercial Subjects

Elizabeth Ireland
State Superintendent of Public Instruction
Helena
1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Bookkeeping, Shorthand, Typewriting, Commercial Law, Salesmanship and Advertising, Junior Business Training, Business English, Commercial Geography, and Business Arithmetic is being offered as a tentative program for the field of commercial subjects in the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and the Teachers of Commercial Subjects send from time to time, as this course is used, suggestions for its improvement.

Grateful acknowledgment is made to Montana Educators and to the Commercial Subject Committee, in particular, for their kindly cooperation with the State Department of Public Instruction in formulating the subject matter contained herein. Valuable assistance was obtained from courses of study from other states and from new texts furnished by Publishing Companies.

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ELIZABETH IRELAND,
Superintendent of Public Instruction

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COURSE OF STUDY IN COMMERCIAL SUBJECTS

PART ONE—GENERAL SUGGESTIONS

I. Introductory Statement

Two main purposes seem to be justified in high school commercial education in Montana. First, there is a large group of students who do not plan to follow any strictly business activity as a vocation who elect one or more commercial subjects. It is likely that this group is a larger one than that representing the students with purely vocational intentions. As the commercial curriculum is enriched by the offering of new subjects, the non-vocational group seems likely to increase rather than to diminish. To supply the needs of this non-vocational group, by adjusting existing courses or establishing new ones, would seem to be one of the main purposes of our commercial education. Second, there must be provided the best training possible for those students who wish to complete a commercial course and seek employment as office or other business workers. Accordingly, those who have charge of the instruction of students in the commercial courses should be guided by these general aims:

A. To impart general knowledge and skills useful in the business of everyday life

B. To prepare students to give efficient service in office positions of a clerical nature

C. To provide a general educational background which will help the student to earn promotion in the business world

II. Commercial Curriculum

The courses which are outlined in this section represent commercial courses which are offered in the high schools of Montana. No attempt has been made to introduce new courses or to change the old ones radically. Improvement of instruction and not reorganization of material is the chief end sought at the present time.

It is possible that a reorganization of the commercial curriculum in many schools would be profitable, and it is hoped that teachers and administrators will give this question some serious thought. More effective pupil guidance in commercial work, and the introduction of a course in business organization and management and one in retail merchandising are subjects worthy of serious consideration.

III. Commercial Course

The high school which boasts a commercial department would do well to provide a definite commercial course or courses for its students. The existence of such a course is a strong suggestion that one is not readv to seek a position in the business world until the requirements of such a course are satisified. It happens too frequently that the student who has elected a unit or two of commercial work secures a position, much to the embarrassment of the school and the employer, while other students more worthy and better prepared, are denied the opportunity of a trial. The subjects included in the commercial course depend on the offerings of the school and the specialization of the student. There should not be one commercial course but several, one for the student who plans to be a stenographer or secretary, one for the prospective bookkeeper or office manager, one for the future salesman, and others to suit the special vocations for which students are preparing. But all commercial students have some common vocational interests and there are certain studies which should be pursued by the entire group. We have ventured to offer below a suggestive list of these subjects which might serve as the core of the commercial course:

Four years of English (If possible include one-half unit of Business English and one-half unit of Public Speaking. When necessary these may be substituted for the fourth year of regular English.)
General Business Training with some Occupational Information, one unit
Natural Science, one unit
American History and Government, one unit
Bookkeeping, one unit
Typewriting, one-year course
American Problems or Economics and Sociology, one unit

IV. Cooperation with Local Business Men

There are many ways in which the resourceful commercial teacher can establish helpful contacts with local business men which cannot be foreseen or described. Advantage should be taken of the best opportunities to get help with instruction, to give students practical experience, and to assist them in securing positions when they graduate. Visits to local plants and offices, class talks by business men, and modification of instruction to meet local conditions may be practical plans to adopt. If satisfactory arrangements can be made to secure part-time and summer work for advanced students the commercial department will increase its opportunity to function properly.

V. Placement Bureau

Every commercial department does something for its students in assisting them to find suitable positions. The old adage of "what is worth doing at all is worth doing well" seems to apply here. The larger high schools should have the placement and follow-up work organized to take the best advantage of the local business opportunities for their students, and the smaller schools will do well to systematize their efforts in this direction. A little follow-up work will often reveal ways in which further assistance can be given to young office workers struggling with the new job; it will also furnish another method of checking the quality of instruction. If a careful record of all commercial graduates is kept the department will accumulate valuable data on how the instruction is functioning in the lives of its students.

VI. Qualifications and Training of Teachers of Commercial Subjects

While the certification law of the State of Montana permits a teacher of commercial subjects to be granted "Special Certification", valid to teach commercial subjects in the high school, on lesser qualifications than those required for graduation from a fully accredited four-year college or university, nevertheless, the standards of accrediting set up by the State Board of Education recommend that a teacher of high school subjects be a graduate or the equivalent of a fully accredited four-year college or university and that the practice of a teacher being assigned to teach subjects outside of the major field of preparation be discouraged.

A. The State Department of Public Instruction recommends that, insofar as possible, all teachers of commercial subjects should have as a minimum preparation the following prerequisites:
   1. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in the branch of commercial work to be taught. If it seems advisable the school systems employing the teacher may deduct five hours for each unit of credit earned in high school in the branch of commercial work to be taught.
   2. Evidence of a mastery of the subject matter and skills of the commercial curriculum for which professional training is sought
   3. Supporting courses in business subjects and related social sciences
   4. Courses in education including
      a. Special methods in the commercial subjects
      b. Organization and administration of commercial education
      c. Supervised practice teaching in commercial subjects

VII. Bibliography

A. General

Bowle, Commercial Clubs, Organizations, Programs, and Plays. The Gregg Publishing Company, Chicago
Bulletins of the Bureau of Education. U. S. Government Printing Office, Washington, D. C.
Callahan, Problems and Possibilities of the One-Teacher Commercial Department. The Gregg Publishing Company, Chicago
Department of Superintendence, Sixth Yearbook, Chapter XXIII, "Research in High School Commercial Studies". Department of Superintendence, National Education Association, Washington, D. C. 1928
Jones, Conner T., A Scientific Study in Curriculum Making. The Gregg Publishing Company, Chicago
Jones, Teaching Business Subjects. The Ronald Press Company, New York
Kahn and Klein, Principles and Methods in Commercial Education. The Macmillan Company, San Francisco
Kitson, Commercial Education in Secondary Schools. Ginn and Company, Chicago
Kyker, The Commercial Curriculum. The Gregg Publishing Company, Chicago
Marvin, Commercial Education in Secondary Schools. Henry Holt and Company, Inc., New York
Miller and Others, Methods in Commercial Teaching. Southwestern Publishing Company, Cincinnati
Thompson, Commercial Education in Public Secondary Schools. World Book Company, Yonkers, New York
Weersing, Reorganization of Commercial Education in Public High Schools. Southwestern Publishing Company, Cincinnati
Welch, Some Observations on Secondary Commercial Education. The Gregg Publishing Company, Chicago

B. Periodicals

Journal of Business Education. Haire Publishing Company, 1170 Broadway, New York
Journal of Commercial Education. Stenographic World Publishing Company, 44 North Fourth Street, Philadelphia

Publications which will be sent on request

Balance Sheet, The. Southwestern Publishing Company, Cincinnati
Budget, The. H. M. Rowe Company, Harlem Square, Baltimore
Business. Burroughs Adding Machine Company, Detroit
Clearing House, The. Goodyear Publishing Company, Cedar Rapids, Iowa
Commercial Education. Whitewater State Normal School, Whitewater, Wisconsin
Figure Worker, The. Educational Department of the Dalton Adding Machine Company, Cincinnati
Forum, The. The Ronald Press Company, New York
Spotlights on Commercial Education. Ginn and Company, Chicago

PART TWO—BOOKKEEPING

I. Introductory Statement

There was a time in this country when all students enrolled in high school bookkeeping courses were prospective bookkeepers, but that is hardly true today when the students of this subject number over half a million and most of the office routine is handled by machines. Still, there is a great need for bookkeeping knowledge if not for widespread skill, and the new type of bookkeeping course well deserves a place in the high school curriculum. The new course aims not so much at skill as at understanding; not so much at mere keeping of records, as knowing why the transactions are made.

And who can put the modern bookkeeping knowledge to good use? We might better ask, who cannot? Certainly business executives, investors, stenographers, salesmen, and all those closely connected with a business office should understand the significance of keeping accounts and the meaning of the results the records show. Many men fail in business every year either because their books are not kept properly or because they fail to analyze the financial situation as revealed by their books of account. Is it worthwhile to be able to identify the different items in a bank statement and know their meaning? To pass judgment on the financial condition of the county, town, school district or municipality? To determine the standing of the business which one plans to purchase or in which he is investing his money? The study of bookkeeping is the shortest route to these abilities.

Lastly, some will continue to make bookkeeping or accounting a profession and many will find it necessary to do a little practical bookkeeping. More people would find it to their advantage to keep a simple system of accounts for their private business or special undertakings. The knowledges and skills acquired in a good high school course have a wide application.

The following statement is significant: “Bookkeeping, well-learned, is an extremely valuable tool with which the college student of business can pry open the inner workings of corporation finance, banking and investments, transportation and marketing”. (“The Preparation of the High School Student for the Collegiate School of Business”, The Balance Sheet, February, 1931.)

There is some difference of opinion as to what year in the high school the course of study of bookkeeping should begin. A survey of Montana schools shows that sophomores, juniors, and seniors are quite generally enrolled in the first year of bookkeeping. One large group of schools admits sophomores and juniors while as many limit enrollment to juniors and seniors. One suspects, after a consideration of the records, that bookkeeping is frequently elected to fill out a poorly planned program. This is a practice to be avoided if possible, as the commercial department should not be expected to take a larger responsibility in “getting seniors through” than the other departments.

In deciding where the study of bookkeeping is to begin much depends on the objectives in mind. If the vocational aim is paramount, it would seem best to have the students complete the two-year course in the senior year, which would mean that they would begin as juniors. If general training is the primary consideration, the sophomore year is perhaps the best time to take up the study of bookkeeping.

II. Aims

In summarizing this short discussion, an attempt will be made to put the aims of bookkeeping in a few brief statements. If the aims are not altogether original, they have the advantage of being in close agreement with good authorities.

A. To give an introduction to business methods, terminology, and recording of problems
B. To teach the use of financial records in analyzing a business situation
C. To prepare pupils to do practical bookkeeping
D. To impress on students the importance of system and organization in conducting a business
E. To stimulate the formation of habits of neatness, accuracy, and of accepting responsibility

III. Attainments

The majority of Montana high schools offer one year of bookkeeping for which they allow one unit of credit. A year's course should be the minimum required for credit, and in the smaller high schools it will generally be found that because of the limited curriculum and the necessity of avoiding small classes that one year meets the needs very well. More schools would do well to offer two years of work with two units of credit if they find enough interest in the subject. It is true that only a limited number will become bookkeepers and accountants, but two years of bookkeeping is none too much training of this kind for general business purposes.

Only the largest schools and those which are equipped with posting machines, calculators, and other up-to-date office appliances should attempt the third year. Since this is a specialized course, only those who make good grades in the first two years and who plan to follow the profession of bookkeeping or accounting should be allowed to enroll in it. The bookkeeping class should meet five times a week for a period of from 80 to 90 minutes if no outside preparation is required. In case the school is organized on a sixty-minute period basis and five of these periods are allowed for bookkeeping, some outside preparation may be required.

IV. Procedure

Business men and college instructors have often marveled that a student could complete a course of one or two years in high school bookkeeping and know so little about the subject. Many employers have so little faith in the value of this instruction that they will not give the student taking it any preference over the student who has not had such a course. "In any case, he will have to learn our system of bookkeeping" they argue.

The principal reason for this inability to grasp the fundamentals of the subject is that the high school instructor and the student relied too much on the completion of elaborate practice sets and rules printed in italics. High school instruction in bookkeeping has improved greatly in recent years and this criticism is by no means as true as it used to be, but it is still worth while to emphasize the new point of view.

The bookkeeper must understand the significance of business activities and transactions before he attempts to make a systematic record of them. Set rules and formulas will often prove inadequate to solve practical problems. With this in mind, the bookkeeping instruction should begin with an analysis of the nature and purpose of business activities and the use of records in that connection. If the student can be led to approach his bookkeeping problems with intelligent motive and understanding, the actual construction of the records will not be a difficult problem.

The exact method of approach has probably been over-emphasized. Good presentation can be made, beginning with the account, the balance sheets or assets, and proprietor relationship. It is not logical to ask the student to trace the history of miscellaneous transactions through all the books of record before he finds out what he is doing. The same method and care which is used in introducing the subject to the student should be continued as new topics are developed. Study, class discussion, solution of typical problems, and the working of short exercises are activities which should have a prominent place in all bookkeeping instruction, and especially in the beginning. As the student progresses in the work, he will be able to handle complete practice sets of growing complexity. Drill work should be used to prepare him for doing the work in these sets and to furnish him the necessary reviews which will give him complete possession of the fundamental principles.

The contract method can be used to good advantage if the teacher prefers it. In the beginning it would be wise to have the contracts relatively short, for the instructor will need to keep careful check on the progress of his students at this time. Careful testing should be planned to determine what the student has gained from the work of each project or contract before he is allowed to proceed with the next. Indifferent work or failure to master the subject matter should be corrected by supplementary assignments.

A. Some suggestions

1. Review, review, review; bookkeeping is the application of a few simple ideas
2. All laboratory work should be done at school under the guidance of the teacher
3. Students must learn that as method and accuracy are mastered speed will be developed with little difficulty
4. Direct contact with actual business problems and conditions has a strong motivating influence. A collection of business forms and vouchers is valuable. Visits to plants and offices can sometimes be arranged to advantage. If they have the opportunity, students will listen to discussions given by practical bookkeepers and accountants with interest.
5. It is a waste of time for pupils to copy work in their blank books. Only original work is valuable.
6. It is very necessary that the student should know the best methods of correcting errors in bookkeeping or making various changes and adjustments
7. Methods of proving posting and locating errors in trial balances and other statements should receive considerable attention
8. Remember it is quite as necessary and just as good drill to analyze financial statements and bookkeeping data as it is to construct them
9. The rate at which students learn bookkeeping varies greatly. Special sets, keeping financial records of outside activities, and actual office work should be planned for the ambitious members of the class.

V. Content

The problem of writing a complete and detailed course of study in bookkeeping has not been attempted. Such an outline would hardly be usable unless a text and sets were prepared to accompany it. There are a number of good systems which can be followed, at least, approximately, in the regular bookkeeping course. Below we have tried to give the principal divisions of the subject which should always be covered in each semester. The instructor may think of other topics which could well be added to this list or be developed as sub-topics under one of the divisions already given. It is quite possible the student may not thoroughly master everything which is listed in the first semester; he should, however, become acquainted with these topics and further practice will give him the necessary familiarity with the principles involved.

The combined class and individual work-plan will usually be found most satisfactory. This arrangement gives the best students freedom to progress in the work, while it enables the teacher to keep check on everyone and be sure that each member of the class understands what he is doing. There should be four main purposes in class activities; i.e., (1) introducing new material (2) reviewing work already covered (3) illustrating new applications of principles studied (4) testing.

Instruction in the use of adding machines, posting machines, calculators, and other office appliances has no place in the first year's work. If the school can afford such equipment, and especially if the aim is to prepare the students directly for office work, there should be some training in the use of these machines in the second year. An outline for instruction of this kind can be procured from the different firms manufacturing office appliances, and because of the difference in types of machines and variation in equipment which schools have provided for this work, the course outlined below does not mention machine instruction as a part of the course. A good course can be given in second-year bookkeeping without this instruction, and high schools should not be discouraged from attempting it because they do not have all the equipment they would like.

First Semester

The business transaction is the working unit of bookkeeping. Records of these transactions are summarized in accounts by the use of debits and credits. The accounts representing simple assets should be introduced first, followed in order by those representing liabilities, income and expense. The ledger is a book of accounts which gives in brief form the financial history of the business and most of the data from which the present condition can be determined.

The journal and similar books of record are designed for the purpose of classifying and organizing the entries of business transactions in order that they may be entered in the ledger with greater ease and accuracy. They also afford an opportunity for making a more detailed and accessible record of each transaction.

A. Topics for consideration in books of record

1. Proprietorship accounts, personal accounts, expense accounts, merchandise accounts, notes receivable, notes payable
2. Posting and trial balances
3. Merchandise inventory and expense inventories
4. Working sheet, balance sheet, profit and loss statements
5. Closing the ledger

6. General journal
7. Avoiding and correcting clerical errors
8. Special journals: Purchases, sales, cash
9. Business papers: The more common ones should be introduced during the first semester and others added as the course proceeds
10. Banking: Ordinary transactions, checking account, reconciliation of bank balance
11. Arithmetic applied to bookkeeping as problems arise

Second Semester

Continued review and application of principles involved in first semester's work, with development to suit more complicated business situations, as follows:

A. Special column books
   Sales Journal, Purchase Journal, Cash Book, General Journal
B. Subsidiary ledgers
   Customers' Ledger, Creditors' Ledger
C. Auxiliary books
   Notes Receivable, Notes Payable, Insurance
D. Controlling accounts
E. Deferred entries to merchandise
   Sales Discount, Purchases Discount, Returned Purchases, Returned Sales, Inventories
F. Deferred entries to expense
   Depreciation, Insurance, Inventories
G. Reserves and accruements
   Taxes, Bad Debts, Interest, Depreciation
H. Interest and discount
I. Partnership
   Purpose, formation, articles, operation
   Special problems, such as admission, withdrawal or death of partner, dissolution of partnership
   New entries used in recording investments, distribution of profits, and changes peculiar to partnership

Third Semester

A. Corporation accounting

Anyone who would understand modern business organization should study the corporation. This scheme for accumulating capital and managing business enterprises seems to fit modern economic conditions admirably and has become so common that nearly everyone will find it a source of satisfaction and a practical accomplishment to master the principal facts concerning the formation and operation of the modern corporation. While particular attention must be given to the accounting problems peculiar to a corporation and the student should have an opportunity to practice and develop the bookkeeping knowledge he has acquired in the first year, he should not be allowed to complete the third semester without knowing how a corporation is organized and how the ordinary business activities are carried on. In fact, he cannot understand the accounts of a corporation unless he knows what they represent and why they are kept. A narrow and technical recordkeeping view of the subject should therefore be avoided as it often defeats the end sought.

Due attention should be given to the Montana laws relating to corporations. A copy of these can be secured from the Secretary of State's office at Helena for the sum of one dollar.

To outline in detail the minimum work to be covered in this semester is probably unnecessary. If one of the well-known systems is followed the work is quite definitely indicated. At least one complete set in corporation bookkeeping should be completed and enough exercises and supplementary material used to insure a comprehensive knowledge of the work covered.

Fourth Semester

It would seem best to leave the work of this semester optional. The location of the high school, the educational or vocational probabilities of the students, their interests and abilities, are factors which should be considered in selecting the work for the fourth semester. In most cases, perhaps the safest plan to follow is to offer a course in advanced accounting in which the principles already studied can be reinforced, ability developed in the preparation and analysis of statements, and familiarity with different business situations acquired.

Banking is a course which can be mastered by most students and which may have vocational possibilities for a considerable group. Proficiency in the use of the adding machine, posting machines and other office appliances used in banks will make the course more practical.

In a few cases a cost accounting course or manufacturing set may be atempted. Only those students who have had more than average success with the work of the preceding semesters and those who have a vocational interest should enroll in this course.

VI. Bibliography

A. General

Cole, Accounts, Their Construction and Interpretation. Houghton Mifflin Company, Boston
Klein, Elements of Accounting. D. Appleton and Company, New York
Koopmen and Kester, Fundamentals of Accounting. Ronald Press Company, New York

B. Texts

Altholz and Klein, Modern Bookkeeping Practice. First Year Course and Second Year Course. Lyons and Carnahan, Chicago
Baker, Twentieth Century Bookkeeping and Accounting. Southwestern Publishing Company, Cincinnati
Belding and Green, Rational Bookkeeping and Accounting. Gregg Publishing Company, Chicago
Bowman and Percy, Principles of Bookkeeping and Business. American Book Company, Chicago
Finney, Accounting Principles and Bookkeeping Methods. Henry Holt and Company, Inc., New York
Jackson, Sanders and Sproul, Bookkeeping and Business Knowledge. Ginn and Company, Chicago
McKinsey, Bookkeeping and Accounting. Southwestern Publishing Company, Cincinnati

C. Tests

Carlson, Objective Achievement Tests in Bookkeeping. Southwestern Publishing Company, Cincinnati (Free to customers)
Elwell and Toner, Bookkeeping Tests. Ginn and Company, Chicago (Free to schools using bookkeeping text by same authors)
Elwell-Fowlkes, Elwell-Fowlkes Bookkeeping Test. World Book Company, Yonkers, New York
Jackson, Sanders and Sproul, Bookkeeping Tests. Ginn and Company, Chicago (Free to schools using bookkeeping text by same authors)
Rational Objective Tests in Bookkeeping and Accounting, Series A. The Gregg Publishing Company, Chicago. A series of 10 tests on elementary bookkeeping; may be used with any text. The true-false and completion types of achievement tests predominate. Manual of instructions for teacher.

PART THREE—SHORTHAND

I. Introductory Statement

Gregg is the only shorthand system taught in Montana high schools at the present time and the only one which it is necessary to consider in this outline. The Gregg Publishing Company has prepared a pamphlet entitled, "A Course of Study in Gregg Shorthand for High Schools", which it distributes free to schools using their texts. Since this comprehensive guide can easily be obtained by all shorthand teachers, only important suggestions which may be of assistance to the teacher in making plans for the course will be given here. The Gregg Publishing Company has courteously granted the right to use its material in the preparation of this course of study which is in part a reprint and in part an adaptation.

II. Aims

A. To estimate the student's probabilities for success in shorthand and to advise him accordingly

B. To stimulate an interest in and to teach stenographic skills and practices according to modern pedagogic principles

C. To promote an appreciation and to develop an understanding of the important economic and social problems involved in the commerical life of the student's community, state and nation

D. To develop in the student sufficient skill in the writing and transcribing of shorthand to be of unquestioned vocational value

III. Attainments

Sixty words a minute shorthand writing speed, made on letters from the Gregg Writer Transcription Test, should be considered the standard rate of speed at the end of the first year. Many superior students will be able to do better.

One hundred words a minute shorthand writing speed, made on speed material from the Gregg Writer Transcription Tests, should be the goal for the end of the second year. In schools where extracurricular work, or other interests, prevents the students from spending the maximum time on their shorthand, it may be necessary to reduce the speed standard on new matter to eighty words a minute. More important than the exact rate of speed is the ability to prepare a reasonably accurate, sensible transcription, without which shorthand has no value in the business office.

IV. Procedure

The Hoke Prognostic Test of Stenographic Ability (Gregg Publishing Company, Chicago) has been used by many teachers and found to be helpful in determining the probable fitness of students for stenographic work.

The dictation method of presentation should be used from the beginning. The development of shorthand writing speed must go hand in hand with the learning of shorthand theory.

Transcription should be taught from the beginning, so that the reading of shorthand notes becomes natural and easy to the shorthand writer.

The teacher should demonstrate his own skill in writing, both on the blackboard and in the standard shorthand notebook. This demonstration will interest his students and give them a degree of confidence in his instruction that no amount of talking will inspire.

Emphasize word forms rather than rules.

It is better to have repetition drills on short selections or sentences than on words.

Variation of material makes the subject more interesting to the pupil and holds his attention.

The teacher should impress upon the student that the vocabulary he is asked to learn first is of very high frequency, and, therefore, must be practiced until the words can be written at a high rate of speed.

V. Content

A. Basic texts for first year

(Published by the Gregg Publishing Company, Chicago)

Gregg Shorthand Manual, Anniversary Edition, for basic theory
Gregg Speed Studies, Anniversary Edition, for penmanship drills, supplementary vocabulary drills, and dictation
Progressive Exercises in Gregg Shorthand, Anniversary Edition, for diagnostic testing of each theory unit and for vocabulary building

B. For supplementary reading, remedial drills, and testing

(Published by the Gregg Publishing Company, Chicago)

Graded Readings, Anniversary Edition
Slinker and Studebaker, Self-Dictated Shorthand Practice Pads
Rollinson Diagnostic Tests for Anniversary Edition (one for each of the twelve chapters)

First Semester

Completion of the first five chapters in the manual with accompanying material in the Speed Studies and Progressive Exercises. Use such supplementary material as the class seems to need.

Second Semester

Completion of the manual with accompanying material in the Speed Studies and Progressive Exercises. Use as much supplementary material as the class is able to master.

C. Basic texts for second year

(Published by the Gregg Publishing Company, Chicago)

Gregg Speed Building. (A new advanced shorthand text.) 1932
Gregg Speed Studies, Anniversary Edition
Rational Dictation, Revised Edition
Secretarial Studies, Revised Edition
Secretarial Studies, Laboratory Materials, Revised Edition
Secretarial Dictation, Revised Edition (for teacher only)

Third Semester

Review of the Gregg Manual

Vocabulary exercises and drills

Dictation at gradually increasing speeds, from sixty to one hundred words a minute

Transcriptions should be made daily. If possible a double period each day should be allowed for dictation and transcription in the second year. There need be no sharp division in the time given to these two operations but both should be under the supervision of the teacher.

Fourth Semester

If a separate course in Office Practice is not given, the work of this semester should include the explanation of the use and operation of common office appliances, such as the adding machine, calculating machine, mimeograph, multigraph, cash register, etc., and such practice in the fundamental operations of these appliances as time and equipment will permit. Some division of this work in office training could be made between fourth semester typewriting and fourth semester shorthand.

Dictation, at gradually increasing speeds, of from eighty to one hundred twenty words a minute. Most of this dictation should be new material and should be drawn from many sources.

Brief reviews of principles when necessary.

IV. Bibliography

(All published by the Gregg Publishing Company, Chicago)

Barnhart, An Analysis of the Work of a Stenographer, 20 cents net
Brown, The Factors of Shorthand Speed, 75 cents
Bowle, Commercial Clubs, Organizations, Programs and Plays, $1.00 net
Frick, Analytical Lessons in Gregg Shorthand, $2.75
Gregg, The Basic Principles of Gregg Shorthand, $1.00 net
    The Teaching of Shorthand, 75 cents
    The Use of the Blackboard in Teaching Shorthand, 75 cents net
    Vocabulary of the Gregg Shorthand Manual, Anniversary Edition, 25 cents net
Gregg Shorthand Dictionary, Anniversary Edition, $1.50
Gregg Shorthand Phrase Book, $1.00
Making Shorthand Drills Interesting, 20 cents net
The American Shorthand Teacher (monthly magazine), $1.00
The Gregg Writer (monthly magazine), $1.50
Frances Effinger-Raymond and Elizabeth Starbuck Adams,
    Standards in Elementary Shorthand, 60 cents
    Timely Transcribing Training, Free
    Balance in Skill Training, Free
    Tested Teaching Devices, Free
Hagar, The Fourteen Points in Shorthand Training, 20 cents net
Hoke, The Measurement of Achievement in Shorthand, 50 cents net
Kyker, The Commercial Curriculum, 75 cents net
Rollinson, Diagnostic Testing and Remedial Teaching of Gregg Shorthand
Walk, A Neglected Factor in Education, 20 cents net
Westenhaver, Lesson Plans in Gregg Shorthand, $1.25 net

PART FOUR—TYPEWRITING

I. Introductory Statement

There must be regular instruction in typewriting and constant supervision exercised over typewriting practice if satisfactory results are to be obtained. This is especially true of the first semester's work. Unsupervised practice in the early stages of learning can easily do more harm than good.

Most high school students will undoubtedly find it to their advantage to be able to operate a typewriter with sufficient speed and accuracy to do their own personal work and to perform occasional tasks which will arise in ordinary business dealings. Those students who expect to make a specialty of office work should plan to become efficient typists and will need to spend more time in perfecting their technique. A one-year course is sufficient for general purposes, and additional time spent on typewriting by a person who will use his skill in this way is largely wasted. Those students who desire to make special preparation for office work should, of course, complete the two-year course.

Some difference of opinion exists on the question of which year students should begin their typewriting course. This is not a vital issue in the case of those students who merely elect one year, but in the interests of those who want the two-year course, most of whom should be students who are enrolled in shorthand, the problem deserves some consideration. The practice has been rather common of allowing only juniors and seniors to enroll in typewriting. Two main arguments are advanced for this plan: First, it automatically excludes some "samplers" to whom typewriting seems quite attractive. Second, those enrolling in the two-year course complete their typewriting in the senior year and do not lose any skill because of a lapse in their practice before graduation.

Many instructors now favor students beginning their typewriting course in the sophomore year. This plan has the advantage of enabling shorthand students, who begin their course in the junior year, to transcribe their notes on the typewriter from the beginning. It is claimed that the transcription work the student of shorthand must do in his senior year will maintain his typewriting skill or even increase it.

The length of the class period which should be devoted to typewriting is another mooted question. However, it has been fairly well established by a number of carefully conducted experiments that it is not necessary to devote two 45-minute periods a day to this subject, and that to do so results in some waste of the student's time. Many authorities claim that with good instruction, one 45-minute period a day is sufficient to give the student adequate preparation. In some schools where the 45-minute period is used, two typewriting classes are scheduled in three successive periods, and each student is required to put in an average of seven and one-half periods a week. In the light of present information, one 60-minute period a day would seem to be the ideal arrangement.

II. Aims

A. To establish correct habits and adequate skill in manipulating a standard typewriter

B. To acquire a healthful position at the typewriter in order that it may be operated with the least possible strain on the nervous system

C. To develop habits of concentration, accuracy, and neatness

D. To develop an appreciation of, and skill in, the attractive arrangement of material

III. Attainments

With the variation in the length of practice periods, texts, and methods of instruction, it is difficult to set up definite standards of achievement for typewriting. The speed requirement is usually given the most emphasis, and it has been found that considerable difference of opinion exists among the teachers of the state on this question. It would seem that nearly all students would find it possible to meet the following standards:

A. End of the first year

1. Proper technique
2. Ability to write correctly and arrange attractively any length or kind of business letter
3. Repeated demonstration of ability to write from new matter of average difficulty for periods of five minutes without error
4. Three ten-minute tests written during the last six weeks of the school year at a rate of at least thirty-five words a minute. Standard test material should be used and the International Contest Rules followed in checking errors and determining results.

B. End of the second year

1. Ability to turn out a satisfactory typewritten copy of any kind of work within a fair time limit
2. Three fifteen-minute tests written during the last six weeks of the school year at a rate of at least fifty-five words a minute. Standard test material should be used and the International Contest Rules followed in checking errors and determining results.

IV. Procedure

The statement that "the student becomes a good or bad typist in the first few weeks of the course" undoubtedly holds true in a high percentage of cases. The all-important consideration in the beginning is to teach correct methods in the technique of operating the typewriter and make them habitual with the students. This means carefully planned drills and constant supervision. Most of the typewriting practice during the first six weeks should be directed orally by the teacher. In fact, many teachers prefer to handle the work for the first semester, and even for part of the second, without a textbook. With this preparation, they claim their students can write the textbook exercises in a few weeks and develop a higher degree of speed and accuracy than they would by using the text earlier in the course. The procedure without a text means much planning for the instructor. The greater part of each period will be spent in dictation, spelling, and counting. In this way the habit of even, rhythmic stroking is established.

The non-key errors must receive careful attention. Research has brought to light the fact that one-fifth of all mistakes in operation of the typewriter are non-key errors, such as throwing the carriage, adjusting the carriage, both vertical and horizontal spacing, operation of shift key and lock, back spacer key, space bar, tabular key and tabular stops. All these operations should be the objects of careful drill. Loss of time in inserting the paper and returning the carriage will cut down an otherwise good net average. Much time and drill can well be given to these two operations. Proper curving of the fingers, correct stroking of the keys, and keeping the fingers as close to the keyboard as possible will obtain remarkable results. The student should never look at the keyboard. To do so will undo the work of many hours. Let him keep his eyes on the copy and write no faster than it is possible to do with accuracy and rhythm. He should not hurry when stroking the keys; and still more important, he should not hesitate. His stroke should be firm and sure.

From the beginning there is need of constant supervision to secure correct position at the machine. This must be eternally hammered upon, even into the fourth semester. The student should sit well back in his chair and hold the trunk steadily poised. Both feet should be flat on the floor, arms easy at the side.

There is a popular belief that speed is obtained at the expense of accuracy. This is a mistake. Speed is the natural sequence of accuracy and rhythm. It is all a matter of supervision for technique, position, and rhythm. The student of average or better-than-average ability might just as well be a fast operator as a slow one. A few students will find it difficult to become efficient typists.

The letters of a business firm represent the firm many more times than does an agent or salesman; hence the ability to apply the principles of form and arrangement must be acquired by the typist. A good plan is to assign the same problem of unarranged copy to the class and then compare results. The merits of each transcription should be brought out in class discussion. Typing is not a mechanical process. Students must learn to think, and there are unlimited opportunities for the individual to develop ability in this work, making himself valuable to his employer. Of all forms given in a good text the letter is of most importance. All the textbook exercises based on it should be mastered and supplementary material used when necessary.

V. Content

First Semester

A. Mechanism of the typewriter

1. Explanation of parts of the machine
2. Drill in manipulation of mechanical devices on the typewriter (with exception of the keyboard)
3. Care of the typewriter

B. Operating technique

1. Correct position at the machine
2. Even, rhythmic stroking of the keys
3. Accurate fingering
4. Concentration
5. Continuous operation of the machine
6. Perfect mind and muscle coordination

C. Applications

1. Letter, figure, and character drills to master keyboard
2. Words of high frequency
3. Alphabetic sentences
4. Other special drill sentences
5. Short paragraphs
6. Short business letters

Second Semester

D. General suggestions

1. Review and drills on operating technique
2. Corrective drills
3. Drills on words and phrases of high frequency
4. Speed drills
5. Regular weekly speed tests
6. Miscellaneous types of business letters
7. Other common typewriting projects, such as
    a. Copying from rough draft
    b. Simple tabulation work
    c. Title pages and programs
    d. A few of the more common legal forms

8. Exercises in securing attractive form and logical arrangement
9. Making carbon copies
10. Addressing envelopes
11. Writing telegrams

Third Semester

E. General suggestions

1. Maintenance and development of operating technique
2. Corrective drills
3. Drills on words and phrases of high frequency
4. Regular weekly speed tests
5. Transcription from shorthand notes
6. Continuation of exercises to secure attractive form and logical arrangement
7. Miscellaneous business and legal forms
8. Cutting stencils and operating the mimeograph

Fourth Semester

F. General suggestions

1. Continuation of work outlined for third semester with less emphasis on drills and with more responsibility on the student in working out projects
2. Additional projects of increasing difficulty, such as
   a. Financial statements
   b. Minutes of meetings
   c. Court testimony
   d. Contracts
   e. Copy for printer
3. Capitalization and punctuation
4. Filing and office routine
5. Letters of application

VI. Bibliography

A. General

Smith, Clarence C., Expert Typist. The Macmillan Company, San Francisco
Edward, W. G., Improvability in Typewriting. The Ryerson Press, Toronto, Canada
Book, W. F., Learning to Typewrite. The Gregg Publishing Company, Chicago
Clem, Jane E., Technique of Teaching Typewriting. The Gregg Publishing Company, Chicago
Sorelle, Methods of Teaching Typewriting. The Gregg Publishing Company, Chicago

B. Texts

SoRelle and Smith, Gregg Typing, Techniques and Projects. The Gregg Publishing Company, Chicago. With Teacher's Manual
Ross, New Intensive Typewriting. H. M. Rowe Company, Baltimore
Lessenberry and Jevon, 20th Century Touch Typewriting. Southwestern Publishing Company, Cincinnati, Ohio. With Teacher's Manual
Admire, Progressive Typewriting. The Macmillan Company, San Francisco
Harned, Typewriting Studies. Ginn and Company, Chicago
Hakes, Typewriting Speed Studies. Revised. The Gregg Publishing Company, Chicago
Walton-Maclean, Typewriting Procedure and Practice. Parts I, II, III and Teacher's Manual to accompany the same. Walton Publishing Company, Chicago. 1931

C. Tests

(Published by the Gregg Publishing Company, Chicago)

North's Objective Tests for Teachers of Typewriting
Raymond-Adams, Rational Error Analysis Chart
Slinker, Typewriting Diagnostic Chart
Stuart, Objective Tests in Typewriting, Series A. (Teacher's Edition, 25 cents net)
Bolton, Application of Tests and Measurements to Shorthand and Typewriting

PART FIVE—COMMERCIAL LAW

I. Introductory Statement

Commercial Law should not be considered as belonging to the Commercial Course alone. It is unquestionably largely social in its nature; it is, in reality, a group of social customs. It is the outgrowth of relationships between men that have stood the test of ages and have finally received the stamp of government approval by being made into written statutes. These statutes have been found to be the most satisfactory methods of securing mutual justice in commercial relations. Knowledge of these methods should make pupils better social beings.

A complete commercial course should contain Commercial Law. This is the commercial age. Every person in the commercial field has occasion to meet with legal forms, papers and legal terminology, and must carry on discourse regarding simple legal facts at some time during his business relations. The course should therefore be broad enough to include all that body of law that the business or professional man or woman will meet with on the street, in the office, or in the home. Not only the person in the business field but every man or woman is surrounded by conditions that have as their basis commercial tranactions. The instructor need not be a lawyer but should seek the advice of a competent lawyer on questions that require legal opinions. It would be well, occasionally, to secure an attorney, a judge, a business man, etc., to address the class and explain his ideas regarding the law as well as to tell of his work.

During 1929-30, fifty-seven schools in Montana offered Commercial Law. The third or fourth year seems to be the proper place in which to offer the course. The course requires one semester or eighteen weeks for completion, and entitles the pupil to one-half unit of credit.

II. Aims

A. To develop a wholesome respect for all law

B. To help the student understand his legal rights, limitations, obligations, and when it is advisable to go to a lawyer

C. To develop the power of logical reasoning and deduction

D. To develop an understanding of legal forms and topics, simple contracts, deeds, negotiable instruments, sales, leases, partnerships, corporations, common carriers, insurance, etc.

E. To develop an understanding of the Statute of Limitations and the Statute of Frauds

F. To aid the student in determining whether or not he has the ability and inclination to follow the law as a profession

G. To aid in the development of habits of justice, equality, and honesty

III. Attainments

For one-half unit of credit, the course should extend over a period of eighteen weeks or one semester, the class meeting five periods per week. The time should be divided among the topics in such a manner that each may be brought to the pupil in an understanding way. The student should show a clear knowledge of the different divisions of Business Law, especially negotiable instruments, agency, guarantee and surety, and laws governing sales of personal property.

IV. Procedure

A. General suggestions

1. Use of the text—to give the student certain principles of the law
2. The recitation method—to find out how well the student has acquired these principles
3. The lecture method—to supplement the text, reference books, personal experience and special material
4. The case book method—to enable the student to apply the principles, acquired from the text, to live facts
5. The socialized recitation—to bring out the student's personal reactions on cases, to create interest in the class, to allow the student opportunity to form conclusions based on facts as applied to principles. Sound reasons must be given for decisions and the recitation must be held to the point of issue.
6. Assignment—Teachers will find it valuable to spend a little time each day in giving to the pupils a brief foreword regarding the next lesson, emphasizing the points that are of special importance. This will prevent aimlessness and a useless memorizing of the text.
7. Daily review—to fix the important principles of the preceding lesson
8. Tests and examinations—to verify the teacher's opinion of the student's accomplishment. The best tests for common use in Commerical Law are either the objective type or the problem test. Such tests measure the ability of the student and make it possible for the teacher to determine weaknesses as well as to measure progress. Oral quizzes, in the form of problems calculated to test the student's ability to apply the rules of the law quickly and accurately, are valuable. Written tests make is possible to fix more thoroughly important principles studied. Cases should be used liberally to make sure that the pupil can apply the principles.

B. Case assignments

Outside assignment of cases may be given to the student to work out. The importance of studying cases—actual contests that have been fought out in the courts—can scarcely be over-estimated. Such cases add much to the interest, show the application of legal principles to actual facts and problems, and develop the thinking faculties. Care must be taken to see that the student understands that no hard and fast rules can be applied to similar cases but that the facts vary and not the principles.

V. Aids to Realize Aims (Pupil Activities)

A. Discussion of actual cases of local interest
B. Class discussion of problems brought from home

C. Drawing up of contracts, negotiable instruments, etc.
D. A study of old deeds, insurance policies, bills of sale, etc.
E. Watching the daily papers for court notices, cases, etc.
F. Visiting a court room and hearing cases
G. Asking a good lawyer or banker to discuss points of law with the class
H. Class debates and argument of moot cases to assist in fixing the law (See suggestions given in Weaver, Business Law)
I. Making a collection of legal forms (secured from county attorney, or local printing shop, clerk of court, etc.)
J. Notebooks for special outlines, decisions, or problem cases and reports on assigned topics

VI. Content

In those schools where the length of the course is limited to one semester, the following topics seem to be stressed by most of the leading texts and instructors:

A. Law in general

1. **Origin of law**
2. **Classes of law**
   a. Moral, (Ethical)
      The teacher should emphasize the need for morality, as well as for legality, in business
   b. English common law
      (1) An outgrowth of human rights and responsibilities with property as the major factor in its development
      (2) Transference to United States in colonial days
      (3) General custom as part of common law
   c. Statute law
3. **Divisions of law**
   a. Public (various classes)
   b. Private
      (1) Law of property
      (2) Law of contracts, torts, trusts, etc.
      (3) Law of procedures

B. Contracts

(Since contracts expressed or implied form the basis of all business transactions, more time should be spent on them, than on any other topic.)

1. **Essentials of legal contracts**
   a. Competent parties
   b. Agreements (offer and acceptance)
   c. Consideration
   d. Legal subject matter
   e. Freedom
2. **Kinds of contracts**
   a. Formal (under seal)
   b. Simple (oral, written, express, implied)
3. **Operation of contracts**
4. **How contracts may be terminated**
   a. Performance
   b. Impossibility
   c. Agreement
   d. Legal process
      (1) After breach—remedies in court of law or equity
      (2) Bankruptcy

C. Negotiable instruments

1. **Purpose or function (historical origin)**
2. **Essentials**
   a. Competent parties
   b. Made in writing
   c. Payable absolutely in money
   d. Negotiable in form
   e. Specified time
3. **Forms—check, note, draft**
4. **Liability**
   a. Of the banks
   b. Of the drawer or maker
   c. Of the endorser

D. Agency

1. Classes
2. Duties of principal and agent
3. Liabilities of principal and agent
4. Proxies
5. Power of attorney
6. Termination of agency
7. Relation of master and servant

E. Partnership

(A form of agency)

1. Kinds of agreements
2. Rights and duties of partners
3. High degree of good faith required
4. Liability of partners
5. Advantages and disadvantages of partnership

F. Corporations

(Another form of agency governed by special laws)

1. Early history of various types of business organization
2. Classification
3. Rights and duties of stockholders
4. Types of stock issued
5. Officers and directors
6. Various methods of taxation by states
7. Public service corporations
8. Blue-sky laws

G. Bailments and carriers

1. Classification
   a. Sole benefit of bailor (lender)
   b. Sole benefit of bailee (borrower)
   c. Mutual benefit of both parties
2. Rights and duties of bailor and bailee
3. Warehousemen
4. Pledged property
5. Exceptional bailments
   a. Hotel and innkeepers
   b. Common carriers

H. Sales of personal property

1. Uniform sales act
2. Possession vs. title

3. Necessary elements
4. Bill of sale
5. Statute of frauds applied to sales
6. Transfer of title. Why important?
7. Sales on approval, or on installments
8. Rights and duties of vendor and vendee
9. Liens
10. Warranties

I. Real property

1. Definition of the term
2. Acquisition of real estate
3. Fixtures
4. Mortgages
5. Landlord and tenant

J. Employer and employee

1. Rights and responsibilities
2. Statutory requirements
3. Workmen's compensation and insurance act
4. Employer's liability insurance
5. Regulations for wage collections
6. "Safety first"

K. Law of inheritance

(Not to be studied as a feature of business activity, but for aid in time of individual need)

1. Duties of executors in case of a will
2. Administrator appointed in case of no will
3. Formalities essential in the making of a will
4. Courtesy and dower
5. Title by descent

L. Insurance

1. Kinds of insurance and companies
2. Who may be insured?

M. Torts

N. Courts

1. Kinds
2. Jurisdiction
3. Procedure in trials

VII. Tests

Nearly every text offered for use in high schools carries with it tests of standard grade, including such types as True-False, Completion, Essay, Cases, Comprehensive, Topical, etc. It would be well for the teacher to write to publishing companies requesting sample copies of tests. Refer to list of Tests and Texts.

VIII. Bibliography

There is no standard text for Commercial Law for Montana. Any of the books from the following list may be used, either as a basic text or for reference work. It is a good plan to have several books by different authors for reference.

A. Texts and reference books

Peters, P. B. S., and Pomeroy, Dwight A., Commercial Law, 1928. Southwestern Publishing Company, Chicago. A very complete manual for teachers by the same authors accompanies this excellent text. (Used by a great number of schools in Montana)

Rogers, Ralph E., and Thompson, Clyde, Gano's Commercial Law. Revised 1929. American Book Company, Chicago. A teacher's handbook accompanies Gano's Commercial Law. Very good

Whigam, Wallace Hugh, and Alsoger, C. Martin. The Essentials of Commercial Law. 1925. The Gregg Publishing Company, Chicago. Teacher's Source Book for "The Essentials of Commercial Law", by Whigam, Wallace Hugh. Gregg Publishing Company, Chicago, A Teacher's Manual by Bogert, George G., accompanies this text

Burgess, I. F., and Lyons, J. A., Burgess' Commercial Law. Lyons and Carnahan, Chicago. 1921. Accompanying teacher's manual

Childs, F. H., Elements of Business Law. Walton School of Commerce. (Walton Publishing Company) Chicago. 1930

Huffcut, Ernest W., and Bogert, George Gleason. Elements of Business Law. Second revised edition. 1925. Ginn and Company, Chicago. A Teacher's Manual by Bogert, George G., accompanies this text

Cole, Chas. B., and Conington, Thomas, Elements of Commercial Law. 1925. Houghton Mifflin Company, Boston. Teacher's handbook by the same authors accompanies this text

Cowan, Harold I., Shea, Margaret F., and Moran, George A., Commercial Law by Cases, 1928. Henry Holt and Company, New York. Key and Manual for Commercial Law by Cases, 1929, by the same authors, accompanies this text

Weaver, Samuel P., Business Law. 1926. Allyn and Bacon, Chicago. A teacher's manual for business law accompanies this text

Nichols, Frederick G., and Rogers, Ralph E., A Short Course in Commercial Law. 1913. American Book Company, New York. Takes up law from the standpoint of the text and case method

Handbook to "Short Course in Commercial Law" by Nichols and Rogers. 1914. American Book Company, New York. These two books can be used to advantage with Gano's Commercial Law. Reference is made to the text just above

Babb, Business Law. 1924. Ronald Press, New York. Contains a generous number of cases

Bays, Alfred W., Business Law. 1926. The Macmillan Company, San Francisco

Norton, Negotiable Instruments. West Publishing Company, St. Paul, Minnesota

Sullivan, John J., American Business Law. D. Appleton and Company, New York

Hamilton, Burrett, Practical Law. 1929. Ellis Publishing Company, Battle Creek, Michigan

Bly, Business Law. American Book Company, Chicago

Bauer, R. S., Business Law. J. B. Lippincott Company, Chicago. Accompanying teacher's manual by same author

Schaub, L. F., and Isaacs, H., The Law in Business Problems. The Macmillan Company, San Francisco

Dobic, Bailments. The West Publishing Company, St. Paul, Minnesota

Black, Law Dictionary. West Publishing Company, St. Paul, Minnesota. A valuable book, comprehensive, complete and modern. Contains much information

Business Law—Case Method Story Form. 7 vols. Commerce Clearing House, Chicago

Spencer's Manual of Commercial Law. Bobbs-Merrill Company, Indianapolis

Spengler, R. O., Business Law Cases, and Answers to Business Law Cases. 2 vols. Walton Publishing Company, Chicago. 1931

Crecraft, E. W., Government and Business. World Book Company, Yonkers, New York

B. Tests, casebooks and workbooks

Test questions in Commercial Law (with the answers) by Williams and Rogers; for teachers. American Book Company, Chicago

Commercial Law Achievement Test. 10 sets with keys. Covers the subject thoroughly. May be used with any text. By Peters, P. B. S., Greener, L. D., Green, F. H. Southwestern Publishing Company, Chicago. A good standard test

Case Problems and Tests in Business Law by Heutel, Fredreck K., and Redaker, Carmen G. Ginn and Company, Chicago. Also a teacher's manual. This correlates with Huffcut and Bogert's Elements of Business Law

Rational Objective Tests in Commercial Law. Gregg Publishing Company, Chicago. A set of 4 tests of the true-false type covering entire course in commercial law. May be used with any text

Legal Forms. Ellis Publishing Company, Battle Creek, Michigan. Actual forms. Write for price list.

Questions and cases in Business Law by Thompson, Clyde O. 1928. American Book Company, Chicago. Manual for teacher accompanies these questions and cases

Sprague, Cases on Contracts. West Publishing Company, St. Paul, Minnesota

Cases in Commercial Law by Skar, Robert O. 1930. Southwestern Publishing Company, Chicago. Also a manual by the same author

Clark, Contracts Case Book. West Publishing Company, St. Paul, Minnesota

Bays, Alfred W., Cases on Commercial Law. Callaghan and Company, Chicago. 4 vols.

Problems and Questions in Commercial Law. Welch, Arnon W. Gregg Publishing Company. A teacher's manual accompanies the above. Used as a workbook. An excellent book to develop the power of analysis; containing 268 practical human interest problems and questions on many subjects with space for answers

Workbook in Commercial Law by Forcey, Bernard. 1931. H. M. Rowe Company, Chicago. Worksheets for the workbook by the same author accompany the workbook

C. Current literature

The "Docket" a publication of the West Publishing Company, St. Paul, Minnesota. Contains much matter on up-to-date legal information. Free. Bimonthly

"The Law Student." The American Law Book Company, 2 Flatbush Extension, Brooklyn, New York. Notes on recent decisions and State Bar Examination questions. Free to school officers

The Commercial Law Review. Arnon W. Welch, New York

The Lawyer's Magazine. The Lawyers' Cooperative Publishing Company, Rochester, New York

"The Balance Sheet." Southwestern Publishing Company, Chicago. Free to commercial teachers

D. For the teacher

Chapters on teaching commercial law in:

- Miller, Methods in Commercial Teaching. Southwestern Publishing Company, Chicago
- Jones, Teaching Business Subjects in the Secondary Schools. The Ronald Press, New York
- Kahn and Klein, Principles and Methods in Commercial Education. The Macmillan Company, San Francisco

Bulletin No. 55. Business Education in Secondary Schools. Department of the Interior, Washington, D. C.

Lewis, Wm. D., Great American Lawyers. The John C. Winston Company, Philadelphia

Rubert, How Do I Teach Business Law? Balance Sheet, February, 1927. Southwestern Publishing Company, Chicago

PART SIX

SALESMANSHIP AND ADVERTISING

I. Introductory Statement

A third of all commercial workers are engaged in some form of selling, and all workers have need of the principles of salesmanship and advertising in marketing their own services. These courses, salesmanship and advertising, assist the high school student to live successfully with his fellow beings; to participate intelligently in the development of business life; and contribute to the advancement of society.

Courses in salesmanship and advertising in the smaller high schools can be taught in one semester. Salesmanship can be presented first and this may be followed by advertising, with the relationship between them clearly brought out in presentation. To be of most value to the student, the course should be given in the fourth year.

II. The Objectives in Salesmanship and Advertising

A. To teach the underlying principles of salesmanship and advertising
B. To emphasize high ethical standards in business
C. To enable students to sell their services and ability
D. To develop positive personal qualities conducive to business success
E. To enable the student to be a more intelligent customer
F. To emphasize the relationship between advertising and salesmanship
G. To develop a scientific attitude toward business services and business management
H. To develop an understanding of the problems of the retail merchant
I. To lay the foundation for future study in the subject

III. Attainments

Salesmanship and advertising (one course) is planned for one semester of work and entitles the student to one-half unit of credit.

Students must show an aptitude for associating what they are learning in theory in the class with what they observe in the business world of salesmanship and advertising. The book (rote) learner has no place or value in this field. The student must show initiative, ingenuity, imagination, industry and ability in practical application of the principles of advertising and salesmanship.

IV. Text and Equipment

A good text is quite essential. (See bibliography.)
Reference books and magazines
House organs secured from business firms
Dealers' aids
Graphs and charts
Bulletin board

V. Outline for Salesmanship

The principles of salesmanship are fundamentally the principles of getting along with people, and of influencing people. Most people are selling merchandise or service, including ideas. The highest type of salesman analyzes the needs of the customer (often not recognized by the customer himself) and supplies those needs. It would undoubtedly be valuable to devote some attention to the advertisements of courses in "sales psychology" and "super-salesmanship" with their extravagent claims. Emphasis should be placed upon the fact that no quick veneer methods are adequate. Analysis must be based on a comprehension of the economic situation and on a study of the goods and the customer.

A. Scope of salesmanship

1. Significance of salesmanship
2. Types of selling

B. The salesman

1. Physical qualities and personal appearance
2. Mental and moral qualities
3. Salesman's general knowledge
4. Language and voice of the salesman
5. Power to reason
6. Knowledge of human nature
7. Knowledge of the goods to be sold
8. Learning the selling talk

C. The sale

1. Securing prospects
2. Pre-approach
3. Securing the interview
4. Attracting the attention of the prospective buyer
5. Securing interest
6. Creating desire
7. Closing the sale

D. The salesman and the customer

1. Service
2. Retail service
3. The ethics of selling

E. The salesman and his firm

1. Salesman's relation to his firm

F. The store as the chief selling unit

1. Location
2. Store arrangement, display, window decorating
3. Sales personnel
4. Store policy (goodwill in business)
5. Service features and conveniences
6. Installment buying and credit

G. Student's marketing of his own services

VI. Outline for Advertising

Advertising as a branch of salesmanship includes all the means not included in direct selling for increasing the knowledge of and desire for goods. As a civic contribution, advertising is a factor in improved standards of living. The value of a course in advertising as a means of language training deserves to be emphasized. To secure most value there should be cooperation between the class in advertising and local advertising clubs and chambers of commerce.

A. Introduction

1. History
2. Necessity for study of advertising

B. Advertising and selling

1. Relationship of advertising and selling
2. Purpose of advertising
3. Measuring results—methods

C. Advertising mediums

1. Newspapers, magazines, bulletins, posters

D. The advertisement

1. Appeals
2. Written advertisement—English
3. Attention and interest
4. Illustrations
5. Type and printing
6. Continuity in advertising

E. The advertisers

1. The campaign
2. Direct advertising
3. Sales letters
4. Mail order house advertising
5. Retail store advertising
    a. Window displays (store arrangements)
    b. Newspaper and hand bulletins (house organs)
    c. Moving picture advertisements
    d. Billboards, street cars, delivery wagons, etc.
    e. Electric signs
    f. Directories and church and theatre programs
    g. Samples and demonstrations; stunt advertising
    h. Radio broadcasting
    i. Television (probable use in the future)

F. Legal phases of advertising

VII. Activities

A. Daily assignments; recitations from textbook
B. Oral reports from reference books and magazines
C. Oral reports based on observation of methods used in advertising and selling
D. Demonstration sales (theoretical—in classroom, and actual—in local stores)
E. Talks by business men on the various phases of advertising and salesmanship
F. Field trips to commercial and industrial plants, etc.
G. Bulletin board displays from stores, magazines, newspapers, dealer's aids, etc.

H. Advertising the various school events such as class plays, athletic events, etc.

I. Formation of the class as a sales organization with each member in turn assuming the position of sales manager and of the other positions as well as of the prospective buyer

J. Readings on the lives of men and women who have exemplified strong character traits

K. Listing the health and personality factors which influence success in selling

L. Collecting trade-names, trade-marks, labels, slogans, key devices used in advertising. Making a study of the laws regulating their use.

M. Studying advertisements in old newspapers and magazines and making comparison with those of the present. What different appeals are used? How do you account for the differences?

N. Debate on the question: Resolved, That as a vocation, salesmanship gives more satisfaction than office work.

O. Study of the different types of customers

P. Writing letters of application for sales positions

Q. Studying and judging window displays for effective arrangement of goods

R. Practice in selling. (This should not be absolutely required but should be encouraged as far as possible.) Saturday or after school clerking, selling of tickets to school activities, or taking subscriptions for school paper, will serve the purpose. These members should be encouraged to discuss, with the class, the problems they meet in actual selling.

S. Making a study of the methods and characteristics of successful clerks and salesmen

T. Classroom demonstrations with careful analysis of each step and constructive criticism of

   1. Selling
   2. Personal applications for positions

U. Studying examples of salesmanship abilities as found in history and literature

   1. Columbus before Queen Isabella
   2. Caesar's **Commentaries on the Gallic War**
   3. Various episodes in the life of Napoleon
   4. **Beautiful Joe** or **Black Beauty**
   5. **Uncle Tom's Cabin**
   6. Elbert Hubbard's **Message to Garcia**
   7. Political speeches; propaganda

V. Writing advertisements for school paper, etc. (Cooperating with merchants.)

W. Making a study of advertising ethics and developing an appreciation for the need of proper advertising ethics. (The work of the Better Business Bureaus in encouraging and enforcing truthful advertising should be taken up.)

X. Preparing talks on: The value of color in advertising; The value of the advertising salesman

Y. Preparing many model sales talks, emphasizing the approach, the arguments of the salesman, and how objections of prospective customers are to be met, etc.

VIII. Bibliography

A. Books for teacher and student

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Miller, Cases in Salesmanship. Southwestern Publishing Company, Chicago
Pragg, Advertising and Selling. M. C. Robbins and Company, New York
Simpson, Advertise. D. C. Heath and Company, Chicago
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Rowse and Fish, Fundamentals of Advertising. Southwestern Publishing Company, Chicago
Leigh, R., Elements of Retailing. D. Appleton and Company, New York
Hollingsworth, Advertising and Selling. D. Appleton and Company, New York
Fisk, Retail Selling. Charles Scribner's Sons, Chicago
Whitehead, H., The Business of Selling. American Book Company, New York
Holmes, A. H., Personality and Salesmanship. Southwestern Publishing Company, Chicago
Hoover, R. S., The Science and the Art of Salesmanship. The Macmillan Company, San Francisco
Kneeland, N., Cases in Retail Salesmanship. A. W. Shaw Company, Chicago
Knox, Salesmanship and Business Efficiency. Gregg Publishing Company, Chicago. Twenty-one wall charts are very helpful
Hall, S. R., Writing an Advertisement. Houghton Mifflin Company, Boston
Adams, Advertising and its Mental Laws. The Macmillan Company, San Francisco
Kitson, The Mind of the Buyer. The Macmillan Company, San Francisco
Norton, H. R., A Textbook on Retail Selling. Ginn and Company, Chicago
Fernald, C. H., Salesmanship. Ronald Press, New York
Moody, Men Who Sell Things. A. C. McClurg and Company, Chicago
Nesbit, First Principles of Advertising. Gregg Publishing Company, Chicago
Barton, How to Write Advertising. J. B. Lippincott Company, Philadelphia
Hess, Productive Advertising. J. B. Lippincott Company, Philadelphia
Starch, D., Principles of Advertising. A. C. McClurg and Company, Chicago
Brisco, N. A., Retail Salesmanship. The Ronald Press, New York
Brisco, N. A., Retail Salesmanship Source Book. The Ronald Press, New York
Maxwell, W. M., Training of a Salesman. J. B. Lippincott Company, Philadelphia
Osborne, A. F., A Short Course in Advertising. Chas. Scribner's Sons, Chicago
Tipper and Others, Advertising, Its Principles and Practice. The Ronald Press, New York
Y. M. C. A. National Salesmanship Course. Association Educational Service, Association Press, 347 Madison Street, New York
Allen, Advertising as a Vocation. The Macmillan Company, San Francisco
Ferris and Collins, Salesmanship. The Ronald Press, New York
Opdycke, J. G., Advertising and Selling Practice. A. W. Shaw Company, Chicago
Ivey, P. W., Elements of Retail Salesmanship. A. W. Shaw Company, Chicago
Atkinson, W. W., Psychology of Salesmanship. Towne and Company, Holyoke, Massachusetts
Greer, C. R., Advertising and Its Mechanical Production. T. Y. Crowell and Company, New York. 1931
Hawley, R., and Zabin, J. B., Understanding Advertising. Gregg Publishing Company, Chicago. 1931
Kitson, H. D., Manual for the Study of the Psychology of Advertising and Selling. J. B. Lippincott Company, Chicago

B. Magazines

Printer's Ink (monthly or weekly). Printer's Ink Publishing Company, 185 West Madison, New York
System. A. W. Shaw Company, Chicago
Advertising and Selling, (fortnightly) $3.00. M. C. Robbins and Company, New York
How to Sell Magazine. Cable-Spalding Company, Mount Morris, Illinois
Salesman's News, Homestead Company, Des Moines, Iowa
Burroughs Business Magazine. Burroughs Adding Machine Company, Detroit, Michigan
Burroughs Clearinghouse. Burroughs Adding Machine Company, Detroit, Michigan
Specialty Salesman's Magazine. Robert E. Hicks Corporation, South Whitley, Indiana
Magazines of Business (monthly). A. W. Shaw Company, Chicago. $4.00
Printed Salesmanship (monthly). Harvard University Press, Cambridge, Massachusetts. $4.00
Tide. 25 West 45th Street, New York. $1.00
Educational Bulletin (See June, 1925, Bulletin on Methods in Teaching Salesmanship, by Jay W. Walker). Gregg Publishing Company, Chicago

C. Special helps for teacher

A definite outline of the subject may be found on pages 53-57 of Bulletin 1919, No. 55, Business Education in Secondary Schools. Superintendent of Documents, Government Printing Office, Washington, D. C. Ten cents. This is a report of the Commission on the Reorganization of Secondary Education appointed by the N. E. A. Many suggestive topics

Retail Selling, Some Suggestions for Teachers of Salesmanship. Service Bureau, Ginn and Company, Chicago

Jones, C. T., Teaching Business Subjects in the Secondary School. The Ronald Press, New York. pp. 257-269

Kitson, H. D., Commercial Education in Secondary Schools. Ginn and Company, Chicago. Chapters III, XI, XII

Tosdal, Principles of Personal Selling. A. W. Shaw Company, Chicago

Course of Study Monograph, No. 8, Commerce, Denver, Colorado. Contains outlines and suggestions for methods of handling the courses. The analysis of the school community as a market in connection with the sale of athletic tickets or school yearbook is very good

Salesmanship and Advertising, Curriculum Bulletin, No. 47, Board of Education of the city of St. Louis, Missouri. Contains a definite description of
- Specific objectives
- Suggested activities
- Suggested procedure
- Desirable outcomes
- Appendix gives very helpful suggestions for the selling of school enterprises. Includes advertising

The following lectures and pamphlets are for sale only to educational institutions and those connected with educational institutions, at a flat price of 20 cents each for single copies. If large quantities are desired, write for a special discount. International Textbook Company, Scranton, Pennsylvania

- "Advertising", by Gilbert P. Farrar, Lecturer, New York University, Bureau of Business Research
- "Essentials of Good Buying", by Paul H. Nystrom, Director, Retail Research Association, New York City, Formerly Assistant Professor of Political Economy, University of Wisconsin
- "How to Read Technical Books and Periodicals", by John H. Van Deventer, Editor of Industrial Management
- "Selling by Mail", by E. W. Blauvelt, Sales Manager, Business Books Division, D. Appleton and Company
- "Employment", by William L. Fletcher, President, "William L. Fletcher, Inc.," Business Training and Employment Service, Boston, Massachusetts
- "Selling Life Insurance", by John A. Stevenson, Second Vice-President, The Equitable Life Insurance Company

The following may also be secured from the International Textbook Company, Scranton, Pennsylvania, at the prices quoted

Salesmanship

No.	Subject	Pages	Price
5093	Argument and Suggestion in Salesmanship	41	$0.30
5082A-D	Automobile Salesmanship	244	1.80
5089	Beginning the Sale	45	.30
5084	Essentials of Modern Salesmanship	25	.20
5071	How to Sell Your Services	42	.35
5029	Inspiring of Salesmen	71	.55
5086	Meeting Sales Objections	55	.40
5085A-B	Mental Efficiency	78	.55
5087	Physical Efficiency	35	.25
2257	Sales Management	80	.65
5020	Selection of Salesmen	52	.35
5083	Study of the Commodity	56	.40
5092	Study of the Customer	49	.35
5028A-B	Supervision of Salesmen	106	.80
5059	The Presentation and Closing the Sale	49	.35
5091	The Sales Talk	51	.35
5088	The Salesman's Language	96	.70
5025	The Work of the Sales Manager	61	.45
5027	Training of Salesmen	77	.60

Advertising

No.	Subject	Pages	Price
1810-3	Advertising as a Business Force	44	.35
1173A-2-B-2	Advertisement Illustrations	168	1.30
1825	Advertising Letters	56	.40
1822	Advertising Records and Systems	82	.60
1820A2-B	Department Store Advertising	130	1.00
1821	Direct Advertising	65	.50

1817A-2-B-2	Display Arrangement	158	1.15
1818	Fields of Advertising Employment	63	.50
1814	Fundamentals of Type	28	.20
1187	How to Enter the Practical Field	42	.35
1823-2	Mail Order Campaigns	40	.35
1174-2	Mediums	98	.75
1185	Outdoor Advertising	62	.50
1816-2	Planning the Layout	22	.20
1170-3	Proof Reading	18	.15
1812	Psychology of Advertising	84	.65
1167	Punctuating and Editing	31	.25
1819A-B-2-C-3	Retail Advertising	178	1.35
1815	Specimens of Type	94	.70
1184	Street Car Advertising	43	.40
1181	Technical and Trade Paper Advertising	56	.45
1183	The Advertising Agency	55	.40
1824	The Law an Advertising Man Should Know	54	.45
1813A-3-B-2-C-2	Writing of Copy	140	1.10

PART SEVEN

JUNIOR BUSINESS TRAINING

I. Introductory Statement

Junior business training is a course designed to meet the needs of the non-commercial students as well as of the commercial students. Such a course is generally given in the junior high school in about the ninth grade as an exploratory course for students who drop out of school and who should be encouraged to remain to secure information regarding the simple clerical jobs that are open to them. General clerical positions bring young office employees into contact with more people, reveal a wider range of aptitudes, offer better opportunities for advancement, and furnish employment to a larger proportion of commercially trained young men and women than do stenographic and bookkeeping positions. Special office practice, however is usually reserved for the few who take the four-year course. Junior business training is designed to educate the student in the every-day practices of the business world by giving him information concerning the services offered by the various public utilities such as the post office, express companies, telephone and telegraph companies, insurance companies, etc. Junior business training acquaints the student with common business forms and customary business transactions.

Many students in the eighth or ninth grade have little, if any, knowledge of business affairs. It is, therefore, desirable to make the approach to a subject of this kind quite elementary and to proceed from the known to the unknown. Training for a job is not the primary purpose of such a course; rather the emphasis should be on the exploratory and guidance values.

In the majority of schools in Montana in which junior business training is taught, it is a one-semester course entitling the pupil to one-half unit of credit. This outline has been developed on that basis.

II. Objectives

In general, the objectives for a course of this nature are as follows:

A. To give the student an opportunity to explore and discover his aptitude for commercial work

B. To aid in developing good citizens through teaching the fundamental practices which everyone should understand and which so greatly affect the financial success of individuals in all walks of life

C. To give the student general training in elementary business of a cultural and informational nature, thus giving him a broad concept of business, and providing a background for the study of commercial subjects

D. To encourage students to continue in school as long as possible

E. To develop the proper attitude toward work and towards life itself

III. Suggested Valuable Materials and Equipment

A. Text with accompanying student's laboratory set and teacher's manual

B. Supplementary reference books

C. Standard tests to bring out objective and subjective values and to furnish the basis for remedial teaching. (Tests are provided by publishers of good texts. Tests also accompany the laboratory sets.)

D. The following materials for each classroom for use in junior business training

1. Standard dictionary
2. Standard writing scale
3. Telephone and city directories (These may be old editions)
4. Current copy of the World Almanac
5. A good atlas
6. A wall map of the United States and of Montana
7. A postal and a shipper's guide
8. A copy of the Official Railway Guide
9. Railway tariffs, time-tables
10. Standard textbooks on business arithmetic, business law, and bookkeeping

IV. Standards of Attainment

A. For passing grade, a comprehension of the purpose and reason for the work done

B. For grades above passing, insistence on efficiency, neatness, and understanding of the procedure and principles involved

C. Standardized tests are valuable for measuring the minimum requirements and for ascertaining how far beyond these the best students have progressed

V. Suggested Arrangement of Textbook Materials

A. Introductory view

1. **What business is**
2. **Universal need for business education**
   a. By non-commercial students
      (1) For general business information
      (2) For training in thrift
      (3) For service in the home and business
   b. By regular commercial students
      (1) For practice in the work of junior positions
      (2) For assistance in choosing a vocation
      (3) For securing a foundation for advanced work

- 3. **Business habits and attitudes**
    - a. Relation and importance to position
    - b. Character traits necessary for success: honesty, cooperation, promptness, courtesy, neatness, cheerfulness, industry, orderliness, thrift
    - c. Health: necessary for continuous effort, personal appearance and general efficiency

B. Money

- 1. Use of
- 2. Handling of
- 3. Cash drawer
- 4. Counterfeit money

C. The bank account

- 1. **Establishing a bank account—making deposit**
    - a. Bank book
    - b. Bank checks
        - (1) Form of
        - (2) Check stub and register
        - (3) Transfer of checks
            - (a) Kinds of indorsements
            - (b) Effect of indorsements
        - (4) Stopping payment
        - (5) Filing cancelled checks
    - c. Certified check
    - d. Cashier's check
    - e. Traveller's check

D. Borrowing and lending money

- 1. Notes
    - a. Negotiable
    - b. Non-negotiable
    - c. Interest and discount
        - (1) Methods of calculating

E. Methods of transmitting payments

- 1. Money orders
- 2. Bank drafts
- 3. Miscellaneous methods

F. Methods of collecting money

- 1. Sight drafts
- 2. Time drafts
    - a. Acceptance of time drafts; effect of acceptance

G. Credit

- 1. Establishing credit
- 2. Using credit
    - a. Terms of credit
    - b. Basis of credit

H. Public services

- 1. Travel
    - a. Railway
        - (1) Tickets
        - (2) Use of time-tables

        - (3) Pullman cars
        - (4) Tourist sleepers
        - (5) Baggage
        - (6) Traveler's aid
        - (7) Information
        - (8) Freight
            - (a) Classes
            - (b) Rates
    - b. Waterway
    - c. Airway
    - d. Highway

- 2. **Communication**
    - a. Post office
        - (1) Classes of mail
            - (a) First class
            - (b) 2nd-3rd-4th classes
            - (c) C. O. D. mail
            - (d) Special delivery
        - (2) Forwarding mail
        - (3) Insurance of mail and registry
        - (4) Dead-letter office
    - b. Telephone
        - (1) Local calls
        - (2) Long distance calls
        - (3) Day and evening rates
        - (4) Use of telephone directory
        - (5) Use of telephone
        - (6) Receiving calls
        - (7) Information
    - c. Telegraph
        - (1) The telegram
        - (2) The fast day telegram
        - (3) Day letter
        - (4) The night telegram
        - (5) The night letter
        - (6) Codes
        - (7) Time of delivery
    - d. Cablegrams and radiograms

I. Family budgets

1. Family budgets
2. Family records
3. Individual records and budgets

J. Investments

1. Qualities of good investments
2. Savings accounts
3. Savings banks
4. Stocks and bonds
5. Building and loan
6. Government securities
7. Mortgages and real estate

K. Insurance

1. Property insurance
    - a. Fire insurance
    - b. Automobile insurance
2. Life insurance
    - a. Classes of policies
    - b. Insurance as a means of saving

L. Writing of business letters

1. Letters of application
2. Order letter
3. Letter on delivery of merchandise
4. Letter with enclosure
5. Letter on return of goods
6. Reply to customers on complaints
7. Letter to newspaper on change of address

M. Taxation

1. Authority, purpose, and justification
2. Kinds of taxes—national, state, and local
3. Procedure of assessment, collection, delinquency, and redemption of local taxes

N. Occupations

1. A brief study
   a. In general
   b. Local

VI. Suggested Activities for Pupils

A. Keeping a diary memorandum book as an aid in despatching matters of business (personal and otherwise)
B. Keeping a record of receipts and disbursements
C. Practice in giving and taking instructions
   1. Read "The Message to Garcia"
D. Writing telegrams, night letters, cablegrams
E. Listing local business agencies
F. Preparing packages for mailing and shipping
G. Making comparison of postal, express, and freight charges on different articles
H. Making budgets of personal and family expenses
I. Collecting and studying different kinds of business papers
J. Making files and filing personal papers (practice in use of box and vertical files)
K. Making inventory of household effects for fire insurance
L. Practice in ruling simple business forms
M. Practice in making simple business transactions
N. Use of telephone for business calls
O. Studying the local investment field
P. Studying steamship folders, railroad time-tables, etc.
Q. Assignments involving the use of reference books
R. Listing courtesies essential in business
S. Much practice in writing business letters and replies

VII. Bibliography

A. Books for teacher and student

Jones, Lloyd L., and Bertschi, Lloyd, General Business Science. Gregg Publishing Company, Chicago. Parts I, II, and III adapted for one, two or three semesters of work. Accompanying project books for students. Teacher's helps. Objective Tests, Series A. Very good

Brewer-Hurlbut-Caseman, Elements of Business Training. Ginn and Company, Chicago

Lyon, Education for Business. University of Chicago Press, Chicago
Nichols, New Junior Business Training. American Book Company, Chicago. 1930
Teller and Brown, First Book of Business Methods. Rand McNally and Company, Chicago
Bexell and Nichols, First Lessons in Business. J. B. Lippincott Company, Philadelphia
Hudders, Indexing and Filing. The Ronald Press, New York
Wilkes-York-Terrill, Elementary Training for Business. The Ronald Press, New York. With teacher's manual and budget of forms
Crabbe and Slinker, General Business Training. Southwestern Publishing Company, Chicago. Adapted for one or two semesters of work. Accompanying workbook and teacher's manual
ZuTavern, Introduction to Business. Southwestern Publishing Company, Chicago
Cadwallader, Business Forms and Customs for Everyday Use. The John C. Winston Company, Philadelphia
Cahill, Junior Office Practice. The Macmillan Company, San Francisco
Anderson, Ross and Staples, Clerical Practice. The American Book Company, Chicago
Schoch, Parke, Gross, Murray, Elements of Business. American Book Company, Chicago
Grimshaw, Lessons in Personal Efficiency. The Macmillan Company, San Francisco
Kirk and Waesche, Junior Training for Modern Business. John C. Winston Company, Chicago. Accompanying teacher's manual. Pads of Business Forms, Part I, Informational; Part II, Vocational

B. Books for teachers

Allen, Guide to the Study of Occupations. Harvard University Press, Cambridge, Massachusetts
Brewer, Vocational Guidance Movement. The Macmillan Company, San Francisco
Bulletin No. 54, Survey of Junior Commercial Occupations, Federal Board for Vocational Education, Washington, D. C.
Business Man's Library, 10 vols. A. W. Shaw Company, New York
Cadwallader, Practical Exercises on Filing. John C. Winston Company, Philadelphia
Davis, Vocational and Moral Guidance. Ginn and Company, Chicago
Hunter, Modern Filing Manual. Yawman, Erbe Manufacturing Company, 1099 Jay Street, Rochester, New York
Jones, Teaching Business Subjects in the Secondary School. Ronald Press, New York
Lewis and Sorenson, Business Training in the Junior High School. The Classroom Teacher, Vol. V, pp. 567-614. Classroom Teacher, Inc., Chicago. 1927
McCord, Text and Book of Filing. D. Appleton and Company, New York
Reed, Junior Wage Earners. The Macmillan Company, San Francisco
Rice, Lessons on the Use of Books and Libraries. Rand McNally & Company, Chicago
Stevenson, Project Method of Teaching, The. The Macmillan Company, San Francisco
Strumpf, Problems in Office Practice and Business Style. Gregg Publishing Company, Chicago
Vocational Guidance and Junior Placement. Department of Labor, Children's Bureau, Washington, D. C.

C. Current business magazines and booklets

Articles on qualifications necessary for success in business. The American Magazine, The Saturday Evening Post
Commercial and advertising sections of newspapers
System Magazine. A. W. Shaw Company, New York
Telephone Company—Illustrated booklets. New York Telephone Company
Western Union Telegraph and Cable Company—Illustrated booklets. Telegraph Company, Inc., New York
Annalist (weekly). New York Times Company, Times Square, New York. $5.00

PART EIGHT—BUSINESS ENGLISH

I. Introductory Statement

By the term, Business English, is meant clear, correct, concise English, both oral and written, effectively applied to the problems and situations of everyday life for the carrying out of practical purposes. A course in Business English should include a thorough review of grammar, punctuation and sentence structure; a rather complete study of word usage (spelling, pronunciation, meaning, common errors, and learning of new words especially valuable in the business field); a careful study of business letters, in which structure and principles of composition in the various types are stressed; and a carefully supervised use of oral English. Business men justly complain that few young people can understand an order given orally that contains more than one or two factors. "The office boy who is told to go to the vertical file in the outer office, pull out the left drawer of the middle section, and get folder 89, can generally be counted on to return for instruction one or more times before accomplishing the assigned task". (Report of the Commission on the Reorganization of Secondary Education, appointed by the National Education Association.) "Throughout the course, the following C's of correspondence should be stressed: correctness, clearness, completeness, conciseness, courtesy, and character."

II. Objectives

A. To help the student express himself clearly and coherently, with a view to applying such ability in business transactions, both oral and written

B. To develop ability to understand and carry out instructions

C. To teach the vocabulary of the business world

D. To develop a thorough knowledge of spelling, capitalization, punctuation, abbreviations, proper paragraphing and arrangement, and wording of business letters

E. To enlarge the vocabulary through an effective use of the dictionary. (This is especially important if the use of the dictionary has been slighted in previous years.)

F. To train pupils to check carefully, accurately, and honestly

G. To overcome self-consciousness and reticence on the part of the student

H. To develop habits of courtesy, tact, pleasing voice, interest in and knowledge of an employer's business, and a desire to satisfy. (All these qualities should be shown in replies to oral or written inquiries.)

I. To establish the habit of reading business and industrial literature and to induce the student to think connectedly about business problems, business procedures, business facts and principles

J. To develop ability to collect material and to present it in ways which emphasize display and form features; i.e., emphasizing the selling of ideas through spoken and written English in the most economical and impressive manner

III. Attainments

A. General

In the majority of Montana high schools offering Business English, it is taught for one semester in the third or fourth year. The course as herein outlined is recommended for the twelfth grade for one semester and entitles the student to one-half unit of credit.

Business English should be correlated with typing and shorthand classes. Excellent drill work can be given in the form of typewritten assignments.

Good business English should be made a definite part of Junior Business Training and other subjects taught in the commercial department.

B. Specific

Specifically the student should show

1. An increased knowledge and skill in the use of technical grammar as applied to business writing
2. Improvement and development in effective oral expression
3. An increased fund of business knowledge of the kind that will enable him to assist a business employer more efficiently

For further attainments see the objectives above.

IV. Equipment

A. A good text is indispensable
B. Reference books on business English, business or trade magazines, pamphlets from chambers of commerce, filing cabinet, manufacturer's displays and samples, directories, collection of sample business letters, reports and business forms, business catalogues, and advertisements will serve to make the work more interesting
C. A good dictionary should be available
D. Bulletin board space should be ample for keeping on display effective samples of the kind of business composition being studied

V. Procedure

After an examination of the texts enumerated in the bibliography, one would be justified in concluding that there are two or three preferred methods of approaching the task of teaching Business English. Some texts present the business letter only as the medium of instruction, and include the minimum essentials incidentally through drills. Other texts begin with a drill on technical grammar, following with paragraph study, principles of composition, letter drill, etc., proceeding from the simple to the more complex forms. Still other texts arrange the work in the form of projects or project-problems. It is possible also to obtain some very good drill pads, exercise sheets, and work books on sentences, parts of speech, and correct use of words. Perhaps for best results, a combination of methods could be used. In all cases, it will be necessary for the teacher to adapt the textbook or textbooks to suit his own needs and purposes.

A. Suggestions

1. Talks to the class made by workers from industrial, business and civic organizations, and by professional men

2. Individual interviews with bankers, merchants, salesmen, industrialists, men in shipping concerns, public utility men, public officials, professional men, postal clerks, and customers; reports to class
3. Much emphasis on socialized recitation, project method, group activity and student leadership
4. For suggestive exercises for pre-testing or inventory tests, see Miller, Methods in Commercial Teaching, p. 329 ff.
5. Much written work done in the classroom under supervision with emphasis on mechanics
6. Carefully selected drill exercises for alphabetizing and use of the dictionary
7. Drills for forming correct habits (See Jones' Teaching Business Subjects in Secondary Schools, pp. 202-207)
8. Original compositions in which students apply their knowledge
9. The study of technical grammar and the fundamentals may be motivated by tying it up with letter writing
10. In oral work, the attention of the students should be called to pronunciation, enunciation, voice qualities, and posture. (The aim should be to eliminate all objectionable mannerisms.)
11. Many types of business letters need to be presented and taught carefully
12. Exercises in proof-reading and correcting of errors. (Penalties for failure to recognize and check errors may result in a higher degree of honesty and accuracy.)
13. Individual error record sheets kept by pupils and checked by teacher
14. Many practical tests for discovery of how pupils use what they have learned

VI. Content

A. **Word study and diction**—with special emphasis on words and phrases common to business, and expressions to be avoided

1. Commercial abbreviations
2. Words often misspelled
3. Proper syllabication of words
4. Dictionary study as a means of enlarging and improving one's vocabulary

Buhlig, Chapters I, II, III, IV and pp. 39-43
Webster, pp. 123-160
Zerbe, pp. 142-176
Regnier Advanced Dictation (H. M. Rowe Company), pp. 1-3, gives a list of expressions common to business

B. **Sentence and paragraph study**—with emphasis on grammatical correctness and effectiveness

1. Punctuation and capitalization

Zerbe, Chapter III and pp. 139-141
Buhlig, Chapter VI-IX inclusive, and XV, and pp. 197, 227, and following

C. **Business letters**—principles of composition

1. Parts of a business letter
2. Many types of business letters as the following:

Order for goods
Acknowledgment of an order for goods
Reply to a letter about an order which cannot be filled
Inquiry letter (for information)
Request letter

Magazine subscription
Letter asking for an appointment
Letter of thanks or appreciation
Letter of application
Testimonial letter
Letter giving instructions
Letters requesting special favors
Letters refusing and granting requests
Letters seeking and giving introductions
Letters of complaint about poor service, over-charging, etc.
Letters asking for credit and credit references
Letters granting credit (limited) and declining credit
Collection letters and replies
Sales letters
Adjustment-to-claims letters

Hagar and SoRelle, Part II
Webster, pp. 270-295
Davis and Lingham, pp. 150-262
Miles, pp. 113-279
Zerbe, pp. 177-351

A study of postal laws and regulations naturally fits in with the topic of letter writing.

D. Other business writing and practices

1. Advertisements
2. Use of reference books
3. Business reports and summaries (reports may be oral or written)
4. Note-taking on business conversations, conferences, meetings, etc.
5. Memoranda

   Outlines, Hotchkiss and Drew, pp. 314 ff.
   Proof-reading, Hotchkiss and Drew, pp. 356-357
6. Telegrams, cablegrams, night messages and night letters
7. Inter-office communications
8. A study of the principles of filing
9. Mailing and shipping of packages
10. Study of legal papers, as contracts, leases, bill of sale, promissory notes, trade acceptances. (Such study is especially necessary when Commercial Law is not offered in the school.)
11. Study of remittances; method, advantages and disadvantages
12. Credit and its relation to collection. (Reports on R. G. Dun, Bradstreets, Credit Bureaus, Collection Agencies are valuable in this connection.)
13. Legal points in correspondence, Hotchkiss and Drew, pp. 350-355; Brown, pp. 147-150

E. Oral English

1. Telephone usage
2. Oral and written reports of telephone messages
3. The giving of oral instructions
4. The receiving and carrying out of oral instructions (given over the telephone)
5. Procedure in interviews and conferences
6. Oral reports of topics studied, of speeches on business subjects, etc.
7. Description of explanatory talks
8. Dictation of letters and telegrams
9. Making of sales talks

Oral English must be stressed throughout. Opportunity for practice in the classroom should be provided for application of the principles being studied. Attention should also be given to voice qualities, proper enunciation and pronunciation, good posture, courteous conduct, and the development of confidence. An effort should be made to overcome the objectionable mannerisms of the individual student.

VII. Bibliography

A. Texts

Bartholomew and Hurlbut, The Business Men's English. The Macmillan Company, San Francisco. 1931

Belding, Business Correspondence and Procedure. The Ronald Press, New York. 1912

Brown, Sixty Units in Business English. The Gregg Publishing Company, Chicago. 1923

Buhlig, Business English. D. C. Heath and Company, Chicago. 1927

Davis and Lingham, Business English and Correspondence. Ginn and Company, Chicago. 1921

Davis, Roy, Practical Exercises in English. Ginn and Company, Chicago. These exercises were designed primarily for use in connection with "Business English and Correspondence" by Roy Davis and Clarence H. Lingham, but they are of value in any course in this field. First Series, 56 cents; Second Series, 60 cents; Advanced Exercises, 64 cents

Deffendall, Actual Business English. The Macmillan Company, San Francisco. 1925. Accompanying exercise book

Gallagher and Moulton, Practical Business. Houghton Mifflin Company, Boston. 1918

Hagar and SoRelle, Applied Business English and Applied Business Correspondence. Gregg Publishing Company, Chicago. 1924. Accompanying exercise book and teacher's key

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Cross English Test. World Book Company, Yonkers, New York. Eight-page test with manual of directions, key, and class record. Tests general ability in spelling, pronunciation, sentence structure, punctuation, verb forms, pronoun forms, idiomatic expressions and miscellaneous faulty expressions. Valuable in diagnosing difficulties. Forms A, B, and C

Lewis, English Composition Scales. World Book Company, Yonkers, New York. Five scales designed to measure order letters, letters of application and other types of letters. For grades 3-12

PART NINE

COMMERCIAL (ECONOMIC) GEOGRAPHY

A Study of Fundamental Human Necessities

I. Introductory Statement

The teacher of commercial geography should have an adequate knowledge of economic and industrial history, as well as a keen interest in and understanding of contemporary progress. By showing interest and enthusiasm the teacher will be able to inspire the students with an ever-expanding interest into national and international fields. The story of man in his quest for the necessities of life from the remotest past to the present is a most fascinating one. The primary purposes of this course are to be found in the study of how and where the materials for sustenance, clothing, and shelter are obtained, with something of the processes used in preparing these materials, and an understanding of the exchanges needed to distribute properly these necessities. Under the conditions of modern life it is difficult to understand the individual relationships that accompany the demands of modern economic existence. Quite largely this difficulty is caused by the intricate nature of the social-economic organization that carries on the human struggle for existence and perpetuation. As a result of a long and expanding process of evolution, it has been made possible for the social-economic organization to relieve mankind of the burden and risk of facing the struggle individually and alone, but it has also placed upon individuals specialized duties and responsibilities, which in the main seem far removed, and often entirely detached, from the struggle itself. Because of this seeming detachment, many young people find the study of social-economic relationship bewildering and confusing.

A suggested approach to the subject is through a survey of local products, industries, and needs. The information gained from such a survey may then be compared with statistical reports, for the classification of industries to determine the stage of development of the community and the state. Few states offer such an interesting field of study as does Montana (the "Treasure State") with its wealth of resources, its variety of occupations and transportation methods, its various stages of development, its varied topography and resultant differences in climate, and its vast distances. Since people make their living by a utilization of the land and other resources of a region, geography—the science of regions—logically becomes an integral part of that education that is concerned with preparing boys and girls to make a living. Commercial geography when properly presented is an inoculation of vital interest in world affairs which should last through life.

II. Objectives

A. To secure a better understanding of the factors controlling commerce and industry

B. To develop an interest in the geographic and social-economic phenomena which constitute the environment of humanity, and to furnish a background for future thought on problems of a social-economic nature

C. To interpret regions from the standpoint of their resources, emphasizing the fact that lands are only important insofar as man uses them

D. To show how mankind is dependent upon geographic conditions and material resources, and to show the economic interdependence of people of different lands

E. To furnish an intelligent understanding of the business relations of the United States to the rest of the world

F. To acquire a better knowledge of place geography

G. To develop a sympathetic understanding of the problems and conditions of people in other lands and an attitude of respect for their varying views and customs, that world peace and friendly international relations may be promoted

III. Attainments

Forty-seven of fifty-four high schools in Montana, that reported as offering commercial geography, devote a semester (five periods a week) to its study. Thirty-three schools definitely report that the subject is offered in the first or second year of high school.

Many authorities suggest that a full year be devoted to the subject and some state courses of study plan their outlines for that period of time. However, the following outline is planned for one semester's work and entitles the student to one-half unit of credit.

IV. Equipment and Materials

A good text is essential. (See bibliography.)

Reference books

Census reports for statistics
World Atlas
World Almanac and Book of Facts. New York World, New York. 60 cents
Statesman's Yearbook. The Macmillan Company, San Francisco. $6.00. A new copy should be purchased every four years
Statistical Atlas and Reports. (Secure Statistical Abstract of U. S. from local congressman or from the Department of Commerce, Washington, D. C. 50 cents)
A standard encyclopedia should be available
United States Agricultural Yearbook. U. S. Department of Agriculture, Washington, D. C. $1.25
Chamber of commerce bulletins
Pictures of cities and industries
Commerce Reports (weekly). Bureau of Foreign and Domestic Commerce, Washington, D. C.
School geographies including McBain's Geography of Montana. Ginn. 1931
Commerce Yearbook. U. S. Department of Commerce, Washington, D. C. 60 cents
Mineral Resources of the United States, U. S. Geological Survey Annual. Geological Survey, Washington, D. C.
Magazines dealing with current economic and industrial problems

Other materials

Many agricultural, mineral, manufacturing, and natural history specimens and exhibits will add much to the interest
Maps showing political divisions, transportation, resources, relief, thermal regions, rainfall, wind and ocean currents, soil areas, and location of industries will be found very helpful
Slides, films and their respective machines. (Slides may be obtained through the Department of Agriculture and the Bureau of Mines, Washington, D. C.) Akin and Bagshaw Publishing Company, Denver, Colorado, (1425 Williams Street) has a full collection of geographical slides. Write for catalogue. Write also to Society for Visual Education, Inc., 327 South La Salle Street, Chicago, for Picturols. Some are free to schools having stereopticon machines. The Herman Ross Enterprises, Inc., 622-30 Ninth Avenue, New York, has a list of geographical films that should prove interesting

V. Outline of Study

"The outstanding responsibility carried by geography in commercial education is to give a working knowledge of the commercial world. To gain such knowledge it is necessary to deal with two closely related and yet distinctive divisions of the subject . . . One is the general structure of the commercial world. This division involves a recognition of the regions actively engaged in world commerce and of the fabric of trade and transportation by which they are inter-related . . . how through their industries, the people of these commercial regions utilize the land and resources of their natural environment."—Colby in Kitson's "Commercial Education in Secondary Schools", p. 200. A second division is to provide, by "specific study of the affairs of the people of the United States, an illustration of the inter-play and interaction of those factors".

Throughout the course, it is well to organize the study around the participation of the United States in commerce, and to develop the importance of the United States in industry. The commodities selected for study should be those of large moment to our people. Of necessity, an investigation of those commodities and their production will lead to a study of the regions with which the United States has important trade relations. As the United States has come to have a foreign trade involving the major portions of the commercial world, a study of American trade should bring about a working knowledge of the structure and organization of the commercial world.

In a one-semester course, the emphasis should be on the social-economic adjustment to geographic conditions as seen in the United States. Perhaps about a fourth or a third of the time should be given to a "study of the growing dependence upon other areas of the earth for meeting demands essential to the maintenance of the American standard of living, the development of ways and means for offsetting the effects of the growth of population and the problem of diminishing returns".

A. Geographic influences underlying industry and commerce

1. Climate: rainfall, temperature, winds, effects of large land areas and water areas
2. Relief: mountains, valleys, plains, rivers, soil
3. Mineral resources: character, distribution, accessibility
4. Plant and animal life: effects on commerce
5. People: stage of industrial development; education and training; wealth; government participation in industry and commerce

B. Primary production

1. Farming: grain, stock, cotton and silk, vegetables and fruit, sugar cane. Markets for these commodities.

It would be well to show how the different geographic divisions of the United States have influenced the industries of the several sections and how the development of these industries has influenced the social, economic and civil life. A discussion of the "money" crops of the nation, the disadvantages of single crop farming, the advantages of diversified farming, and the attempts made to solve farm problems through cooperative effort and legislation—both state and national—will prove instructive and stimulating.

2. Forest products: areas for lumbering. Uses of products for building material, fuel, and manufacturing. Maple sugar, rubber and other gums, cork, dyes, drugs, fibre silk.

3. Mining: Mining areas and products. Iron, copper, precious metals, and coal. Marble quarries. Oil and gas wells. Cement. Clay products.
4. Fishing: North Atlantic, Pacific, Great Lakes, as grounds for commercial fish. Oysters and other shell fish. Game fishing in inland waterways.
5. Hunting: Fur producing areas. Seal fisheries.

C. Transportation and communication

1. **Waterways:** Rivers, canals, the Great Lakes, oceans, Panama Canal, Suez Canal. Need for wharfs, water terminals, warehouses. Probable effects of the proposed Great Lakes-St. Lawrence waterway on industry and commerce of the West; of Montana; of New York City.
2. **Railways:** A study of the main lines and their relation to industries and commerce. Great railway centers. Electrification. What other transportation methods compete with railroads? Effects?
3. **Highways:** Kinds of roads as to materials. State and federal aid. Advantages to trade. Why have passenger and freight bus lines increased so much in the last dozen years?
4. **Airways:** Mail and passenger service. For what kinds of freight is airplane transportation especially valuable?
5. **Other means of travel in far places:** Dog teams in the North, caravans in deserts, pack animals in mountainous regions, etc.
6. **Methods of communication:** Mail service, telephone, telegraph, cable, radio. Value of market reports in newspapers.

D. Manufacturing

1. Location: Source of power, nearness to raw materials and markets. Availability of capital.
2. Availability of labor: Why is manufacturing found chiefly in the eastern part of the United States?
3. Why has the production of manufactured goods increased so much in the last century? (Consider use of power, inventive ability, improvement in agricultural methods, improvement in transportation, great demand for what once were luxuries.)
4. Study of typical industries as meat-packing, clothing and shoe, iron and steel, automobile, farm machinery, cereals and flour.

E. Power as a fundamental human necessity

1. The use of power in the past
2. The dependence of this industrial age on coal
3. The development of the petroleum industry and its significance in power and transportation
4. Increasing importance of water power
5. Name some of the uses made of mechanical power in our country. Man is being emancipated from much of life's drudgery through increased use of machinery and mechanical power. What effects does the increased use of machinery have on employment?

F. Commerce

1. Advantages of position with reference to trade—home and foreign markets
2. Development of trade routes—land and ocean. Effects of winds and currents on ocean trade.
3. Barriers to trade: Geographical barriers, freight rates, tariff, prejudices

G. The study of the distribution of the world's products by countries

Commodities should be studied from an economic as well as a geographic standpoint. The geographic and economic influences underlying industry and commerce should be sought out and studied at every stage. The underlying principles of commercial geography remain the same, but the data are continually changing because of the weather, new methods, the market conditions, and international political relations. The teacher should constantly make use of government reports, periodicals, and newspapers to keep in touch with economic problems of the day.

1. Selected important countries should be studied as to commodities, commercial development and possibilities
2. The part played by leading countries in the development of world trade: It would be well to contrast a highly developed country with a new or undeveloped land; a country having a temperate climate and conditions with a tropical land

H. Commercial and industrial advantages of Montana

1. Geographical influences
2. Advantage of situation
3. Scenic attractions
4. Transportation facilities and problems
5. Location of population—large cities
6. Transition from pastoral stage to agricultural stage as shown by the breaking up of huge ranches and free cattle range into farms
7. Irrigation projects. Dry land farming.
8. Banking and funding facilities
9. Industries
   a. Stock raising—sheep and cattle
   b. Grain—particularly wheat
   c. Gardening for city markets—potato raising
   d. Fruit raising in western part
   e. Dairy and poultry products
   f. Mining: coal, gold, copper, oil
   g. Lumbering in the western part
   h. Manufacturing: Sugar beet factories, flour mills, saw mills, copper products as wire, etc., production of power
   i. Catering to summer tourists
10. Commercial future of the State
    a. Water power development
    b. Improved methods of farming through work of county agents, agricultural college, and 4-H clubs. Greater irrigation projects.
    c. Greater development of mines
    d. Greater incentives to tourist travel and trade through improved highways, through greater facilities for entertaining tourists, and through advertising Montana's scenic beauties

I. Methods

Several different methods of treatment are possible. The main study may proceed through a study of leading commercial regions with the products and commodities of each (a regional study shows the commercial world as it is); it may be a study of the commodities of commerce with the distribution of and trade in each commodity (commodities may be studied as items in the structure of world trade, and as means of interpreting the region in which they are produced); or it may be through a study of the activities of people in making a living—that is, through primary production, transportation, manufacturing, and consumption. The last method emphasizes the economic viewpoint and links up the study with the interests of adult life and should stimulate interest in general affairs after the completion of the course.

Other helpful suggestions follow:

1. The project-problem method is very well adapted to the teaching of commercial geography. A liberal supply of reference material is quite necessary in this method. See pp. 209-210, Kitson's Commercial Education in Secondary Schools. Each student should perhaps specialize on two or three problems. In this way, he would very likely develop a method of investigation and an interest in the subject which would carry over to the other parts of the course, and affect his reading in the field later.
2. Well-planned trips to plants representing typical occupations of the community are valuable means of motivating interest. The local community is a world in miniature; larger concepts are made possible through an understanding of the significance of local industries and commodities. A visit or field trip should be made to secure answers to questions like the following:
   a. Why does this industry pay in this locality?
   b. What problems need to be overcome to make it a paying proposition?
   c. What are the favorable and unfavorable geographic conditions for this industry?
   d. How can this business be made to pay still greater returns?
3. Study of statistics: Significance may be given to figures and comparisons made more easy, if graphs are used to represent facts pictorially. Graphs and charts showing commercial data, etc., in magazines should be studied. The degree of prosperity enjoyed by various countries and comparisons made with that of the United States may be brought out by the use of the graph.
4. A liberal use of maps adds to the interest and understanding. Wall maps should be available at all times. A map showing the distribution of population is, in a broad way at least, an index of the regions which participate in world commerce. It shows also the densely populated areas and thereby discloses regions of large production and consumption of goods. In a course like commercial geography, such regions deserve special consideration. Bulletin No. 24 of the Federal Board for Vocational Education, Washington, D. C., gives excellent suggestions for the use of maps and graphs in the study of commodities. Desk maps should be made by the students for inclusion in notebooks.
5. The atlas habit should be cultivated and emphasized constantly. Names of places should not be indifferently passed over.
6. Individual and group interviews with authorities in industrial lines and reports to class
7. Talks to the class by men recognized as leaders in local industries
8. Study and discussion of exhibits
9. "In interpreting a region through a study of the relation of its major economic activities to the natural environment, a method likely to be successful is to make use of the progressive formula 'Where, how and why?' * * * Of necessity such explanation will bring out the ways in which industry is related to the natural environment." See pp. 205-206 in Kitson's Commercial Education in Secondary Schools.
10. Motivated supplementary reading: This should be well supervised by the teacher. References that are too abstract or too technical for use by the students, or references having no bear-

ing on the topic in hand should not be included. Such supplementary reading should arise from a desire to know more about a line of thought contained in the text or developed during a class discussion.

11. Study and discussion of current economic and industrial problems and topics
12. Notebook containing parallel readings, pictures of cities and industries, maps, clippings and essays based on field trips, references, etc.
13. Talks, reports and debates on community problems
14. Dramatization
15. Making geographic collections. (Much free material is available)
16. Pupils should be encouraged to note commercial and industrial facts and properly report upon and interpret them. Particular problems suggested by local conditions may be assigned for independent solution to individual students
17. Building up a museum may be done at very moderate cost. (See suggestions for free materials in bibliography)
18. Tests should be: Sufficiently extensive to cover every phase of the work; objective in type whenever possible; reasonable, and of a reasoning nature

VI. Bibliography

A. Texts and workbooks

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Brigham: Commercial Geography. Ginn and Company, Chicago. Rev. ed. 1923

Dryer: High School Geography; Physical, Economic and Regional. American Book Company, Chicago. 1911

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Huntington and Cushing: Modern Business Geography. World Book Company, Yonkers, New York. 1930

Morris: Commercial and Industrial Geography for Use in Schools. J. B. Lippincott and Company, Philadelphia. 1919

Robinson: Commercial Geography. Rand McNally and Company, Chicago. 1910

Smith: Commerce and Industry. H. Holt and Company, Inc. New York. 1925

Whitbeck: High School Geography. The Macmillan Company, San Francisco. Exercises, problems and questions are provided and frequent summaries, graphs, and statistical tables furnish help. Accompanying students' workbook.

Whitbeck: Industrial Geography. Production, Manufacture, Commerce. American Book Company, Chicago. 1924

Economic Geography: A Reference Notebook for High School Students. By Douglas C. Ridgley and Mabel P. Crompton. McKnight and McKnight, Publishers, Bloomington, Illinois. 1928

Finley: Exercise Book in Commercial Geography. Mentzer, Bush and Company, New York

Write to The Macmillan Company, San Francisco, and to The Historical Publishing Company, Topeka, Kansas, for information on Workbooks in Commercial Geography

B. Supplementary material

Abbott: Montana in the Making. Gazette Publishing Company, Billings. 1931

Bengston and Griffith: The Wheat Industry. The Macmillan Company, San Francisco

Bowman: The New World ($6.00) and Problems of the United States (50 cents) World Book Company, Yonkers, New York. Suggest many problems arising out of geographic conditions

Burr: Small Towns, An Estimate of Their Trade and Culture. The Macmillan Company. San Francisco. 1929

Colby: Source Book for the Economic Geography of North America. University of Chicago Press, Chicago. 1922

Coman: Industrial History of the United States. The Macmillan Company, San Francisco

Day: History of Commerce. Longmans, Green and Company, New York

Douglas: Merchandising Studies of the States. Ronald Press, New York. 1920

Eldridge: Trading With Asia. D. Appleton and Company, New York

Finch and Baker: Geography of World Agriculture. United States Department of Agriculture, Washington, D. C.
Fisher: Resources and Industries of the United States. Ginn and Company, Chicago
Geer: The Reign of Rubber. The Century Company, New York
Hardy: Geography of Plants, and Introduction of Plant Geography. Oxford University Press, New York
Herrick: History of Commerce and Industry. The Macmillan Company, San Francisco. Discusses the history of the great commercial and industrial movements
Huntington: Civilization and Climate. Yale University Press, New Haven, Connecticut. 1922
Huntington and Cushing: Principles of Human Geography. John Wiley and Sons, New York. Rev. ed. 1922
Huntington and Visher: Climatic Changes. Their Nature and Causes. Yale University Press, New Haven, Connecticut. 1922
Jefferson: Commercial Values. An Atlas of Raw Materials of Commerce and Commercial Interchanges. Ginn and Company, Chicago. 1912
Johnson: Mathematical Geography. American Book Company, Chicago
Keller and Bishop: Commercial and Industrial Geography. Ginn and Company, Chicago. 1912
Kerr: Industrial Organization. Ronald Press, New York. 1923
Kendrew: The Climate of the Continents. Oxford University Press, New York. $7.00. Expensive but very valuable in Commercial Geography
Mesereau: Materials of Industry. McGraw-Hill Book Company, Inc., New York. 1931
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Semple: Influence of the Geographical Environment. Henry Holt and Company, Inc., New York
Smith: Human Geography. John C. Winston Company, Philadelphia. Books I and II, 1921 and 1922, respectively
Smith: Story of Iron and Steel. D. Appleton and Company, New York. 75 cents
Smith: North America. Harcourt, Brace and Company, New York. Fascinating descriptions
Smith: The Strategy of Minerals. D. Appleton and Company, New York
Spurr: Political and Commercial Geology. McGraw-Hill Book Company, New York. Gives valuable information concerning the political significance of the distribution, ownership and control of the mineral resources of the earth
Staples and York: Factors of Economic Geography. Southwestern Publishing Company, Chicago
Surface: The Story of Sugar. D. Appleton and Company, New York
Toothaker: Commercial Raw Materials. Rev. ed. Ginn and Company, Chicago
Tower: The Story of Oil. D. Appleton and Company, New York
Trewartha: Climate of the World. Wisconsin Geographical Press, Madison, Wisconsin. 35 cents. An eight-page folio of maps and laboratory exercises on weather and climate. Suggestive and useful and not too difficult for second-year high school students if guided by the teacher
Van Hise: The Conservation of Natural Resources in the United States. The Macmillan Company, San Francisco
Ward: Climate. Considered Especially in Relation to Man. G. P. Putnam's Sons, New York
Wilcox: Tropical Agriculture. D. Appleton and Company, New York
Wright: Marvels of the World's Fisheries. J. B. Lippincott and Company, Philadelphia

The following publications on "Foreign Trade" may be secured from The International Textbook Company, Scranton, Pennsylvania, at the prices indicated:

No.		Pages	Price
2259	Export Sales Policies	108	$ .80
2261	Export Shipments	115	.90
2258	Export Trading	97	.75
2262	Financing Export Business	101	.80
2002	Shipping to Europe (with map)	61	1.20
2360	Getting Export Business	97	.75
2001	Shipping to the Far East (with map)	40	1.05
2000	Shipping to South America (with map)	56	1.15

C. Teacher's list

Bishop: Outlines of American Foreign Commerce. Ginn and Company, Chicago
Sanford: Outlines in Commercial Geography. Lyons and Carnahan, Chicago
Smith: Teaching of Geography by Problems. Doubleday, Doran and Company, Garden City, New York
Holtz: Principles and Methods of the Teaching of Geography. The Macmillan Company, San Francisco. 1913
Chapters on teaching of geography in Jones, Kitson, Kahn and Klein. (See Bibliography in General Suggestions to Commercial Education.)

Teacher's Manual for Cartograph Globes. Denoyer-Geppert Company, Chicago Contains many valuable exercises, questions and suggestions

Sutherland: Teaching Geography. Scott, Foresman and Company, Chicago

A pamphlet containing a detailed list of helps and supplementary materials in geography teaching may be secured from W. H. Butler, Forest Avenue High School, Dallas, Texas. 25 cents

Bulletin No. 13, 1920. Work of the Commercial Museum of Philadelphia, United States Bureau of Education, 15 cents. Send to Superintendent of Documents, Washington, D. C.

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Bulletin 483, 1910, p. 418. Education Department, New York State University, New York. Some Practical Suggestions to Teachers of Commercial Geography, prepared by A. Q. Larson

D. Maps and atlases

International Trade Desk Maps (20 maps for pupils). C. A. Bryant, Dallas, Texas

Packard: Project-Problem Maps (17x11 inches). A. J. Nystrom, Chicago

Goode's Base Maps. University of Chicago Press, Chicago

Goode's Physical Maps of the Continents and the United States. University of Chicago Press, Chicago

Wall Maps. Also a series of base maps and graphs. Rand McNally and Company, Chicago

Outline maps and constructive outlines may be ordered from the Historical Publishing Company, Topeka, Kansas

Phillips: Wall Atlas Maps. Denoyer-Geppert and Company, Chicago

Johnston Series Desk Outline Maps. A. J. Nystrom and Company, Chicago

Central Normal Base Maps. Geography Department, Central State Teachers' College, Mt. Pleasant, Michigan. Maps for each continent and United States 9½ x 12 inches, at 1 cent each plus postage for small orders

Topographic maps secured at small cost from the Geological Survey, Washington, D. C. These maps illustrate drainage areas, river terraces, flood plains, alluvial plains, deltas, drowned valleys, active glaciers, effects of continental ice sheet, etc. Write to Director of United States Geological Survey, Washington, D. C., for list and price.

Mimeographed maps of the world may be made and distributed to the pupils. About a dozen of these showing world production of the leading commodities of commerce should be included. Places of importance and colored areas to indicate amount of production should be filled in by students.

Goode: School Atlas. Rand McNally and Company, Chicago

Literary Digest Atlas of New Europe and the Far East. Funk and Wagnalls Company, New York. 1922

Philip and McConnell: Modern School Atlas. D. Appleton and Company, New York

Hammond's Business Atlas of Economic Geography. C. S. Hammond and Company, Inc., New York

E. Valuable aids (Much free material)

Booth: Material on Geography. Mary J. Booth, Librarian, State Teachers' College, 1536 Fourth Street, Charleston, Illinois. Lists material which may be obtained free or at small cost. It includes commercial products, industries, transportation, education exhibits, addresses of firms lending moving picture exhibits and moving picture machines and stereopticons, maps and globes. 50 cents postpaid. Send money order. Postage stamps and checks not accepted

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Nature Magazine: 1214 Sixteenth Street, N.W., Washington, D. C.
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PART TEN—BUSINESS ARITHMETIC

I. Introductory Statement

Since the time originally devoted to the teaching of arithmetic (as one of the three "r's") in the grades has been considerably reduced, a great need has been felt for a course to supply some of the most practical aspects of the everyday problems in ordinary business transactions. That students lack ability to manipulate figures accurately or solve simple problems easily is a common accusation made by the business man and the teacher of bookkeeping. This is very likely to be the case even though the arithmetic work in the grades has been both efficient and thorough, because students have not had the practice to insure lasting knowledge. Business arithmetic is a subject that very well serves the purpose intended and meets the objections made. It also presents many new phases of arithmetic with which the citizen of today must deal, for example: installment sales, income tax blank-filling, building and loan associations, stock and bond houses and other agencies of investment, as well as the use of the graph in the interpretation of commercial data, and acquaintance with machine calculators. Business arithmetic should be introduced with information of business situations, business problems and processes. It would be well to call the attention of the class to the specific jobs that depend upon ability in arithmetical calculations. (See **A New Conception of Office Practice**, Harvard Bulletin in Education, No. XII, p. 55, Cambridge, Massachusetts.) Students should realize that the aim of the course is utilitarian. They should realize that it is not enough to know how and why, but that some degree of skill and accuracy is necessary to know quickly what principle to apply to definite situations. The problems used in the course should represent the customary applications of arithmetic in business. Throughout, the business point of view should be emphasized.

II. Objectives

A. To develop a thorough knowledge of and specific skill in commercial calculations as used in the average business office
B. To secure accuracy in solving practical problems
C. To develop speed in calculations
D. To teach the student to apply his knowledge of arithmetic to new problems and situations, i. e., to teach him to analyze problems
E. To increase the student's knowledge of business laws and procedures and to bring him into contact with the customs of business
F. To emphasize neatness in all written work
(See Kitson: Commercial Education in Secondary Schools, p. 81, for list of objectives.)

III. Attainments

Business arithmetic is essential for the student who intends to turn to the bookkeeping course and for that student it should be required the year before bookkeeping is given, that is, the business arithmetic should be given in the first year of high school. For the student who will not study bookkeeping, business arithmetic is also valuable in that it provides a certain amount of skill and knowledge useful in many minor clerical positions.

The better authorities on the subject of business arithmetic seem to be agreed that it should be taught for one year in a well-organized and comprehensive commercial course. There are, however, some authorities who suggest that it might be well to divide the work into two parts: "The first to be given in the ninth grade as a preliminary to bookkeeping and other studies, and the second to be given concurrently with the more advanced bookkeeping work." Where but one semester is devoted to the subject, the range of topics treated must necessarily be curtailed, and the amount of useful drill must be lessened. Of the fifty-eight high schools in Montana that reported as offering Business (Commercial) Arithmetic, forty-nine offer it for one semester only. The majority of the schools offer it in the first or second year of high school. In a one-semester course, greater emphasis will need to be placed on the commercial transactions and less drill in figure manipulation will be attempted. If the course is followed by a semester of Junior Business Training as is commonly done in Montana high schools, it might be reasonable to leave some of this emphasis on commercial transactions to the last semester of the freshman year. The one-semester course will entitle the student to one-half unit of credit.

IV. Outline for Study

A. Fundamentals of arithmetic

The minimum amount of time should be spent on addition, subtraction, multiplication, division and fractions, but the student should be fairly facile in his ability and should know how to prove these operations. Many practical short methods should be taught. The practical value of aliquot parts justifies an intensive study of that topic. The reading of gas and electric meters is valuable. Approximating answers in advance and the business man's method of adding and subtracting mentally should be included. The writing of neat figures should be emphasized. Much drill work should be given to make this work automatic and speedy.

B. Trading activities

1. **Buying and selling merchandise**
   a. Forms of bills, invoices and statements, as routine matters
   b. Handling of columns
   c. Practical measurements as determined by the business involved

   Liberal use should be made of those materials having the greatest local interest
2. **Commercial discounts**
   Current practices should be studied
3. **Marking goods**
   The effect of trade discounts on marking goods should be studied. Retail store advertisements will furnish interesting material.

The per cent of mark-up on cost versus the per cent of mark-down on marked price, and their effects on profits.

4. **Paying for goods**
   Making change; using bank accounts; use of checks, bank drafts, and money orders; exchange on commercial paper
5. **Collecting bills**
   Statements, sight and time drafts (discounts allowed)
6. **Foreign exchange conversions**
7. **Inventories**
   This procedure follows the purchase and sale of goods and precedes the computation of profits.
8. **Gross profit on sales and rate of gross profit**
   Computation of profits on selling price rather than on cost price as was formerly done
9. **Use of the machine calculators (if practicable)**
   The Burroughs Company and the Comptometer Company have both developed good texts for the teaching of business arithmetic on their machines. "Calculating machines have not in any sense lessened the need for a thorough, intensive knowledge of arithmetic. Where skill was once required in the use of the pencil, now skill must be required in the use of both pencil and machine."

C. Business expenses

The student should learn that expenses are a deduction from gross profits resulting in net profits.

1. **Interest**
   Interest is a business expense, as is bank discount. The student must know the difference between "nominal" and "effective" rate of interest. Trade acceptances, notes, negotiation of commercial paper, partial payments, and exchange may be studied in this connection.

   Some attention may be given to annuities and amortization. The study of compound interest should be limited to an explanation of the principle involved, and the principal uses for insurance, annuities, and amortization. Since compound interest is found by means of tables or formulae, students should not be required to spend much time on computing compound interest problems.
2. **Wages, commissions, pay rolls (time-keeping devices)**
3. **Transportation and communication charges**
   Postage, parcel post, freight, express, drayage, telephone, telegraph
4. **Depreciation**
   The "fixed per cent of diminishing value" method rather than the "fixed per cent of original value" method should be presented to the class
5. **Advertising**
6. **Insurance**
   a. Property
      Fire, co-insurance, business, car. Practical problems may call for the computation of fire loss rates, agent's commission, short-term rates and returns from cancellation of policies by the insured.
   b. Life
      Ordinary life, endowment, health, accident, group employee's. The meaning of such terms as "surplus", "reserve", "options" and so forth, may be taught, and can be gained through a

study of selected types of insurance policies. In a one-semester course it may not be possible to cover this very thoroughly.

7. **Taxation and customs duties**
   Taxation based on earnings, as contrasted with taxation based on fixed property values. Emphasize the justice of the former. Income tax, inheritance tax
8. **Net profit and profit and loss statement**
9. **Graphic representation of business facts**
   The various forms of graphs including the bar, the percentage, picture, line, and circle, should be explained. Material from business reports, magazines, etc., will supplement class work. Financial and investment firms frequently offer booklets containing much valuable material.

D. Forms of business organization

1. **The individual proprietorship**
2. **Partnership—dealing with division of profits**
3. **Corporations**
   - a. Issuance of stocks and bonds, railroad, industrial, city, goverment. Par and market values. Study of newspaper quotations
   - b. Classes of stock, profits and dividends
   - c. Broker services and compensation

   Visits to banks and brokerage firms should be made by individuals and reports made to the class.

This topic may be covered quite thoroughly in Commercial Law and will then need less emphasis in this course.

V. Methods and Procedures

The teacher should not "deal with problems or tasks, but he should deal with the subjects—the variety of things which make up the field of business transactions." Many practical problems should be given. The teacher should have no difficulty in adapting the material of the textbooks and other supplementary problems to a "business sequence" plan. The order in the textbook need not be followed and should not be followed for best results.

A. Helpful suggestions

1. **Drills and review are necessary for fixing facts learned**
   One authority holds that eighty per cent of the available time should be spent in drills on the straightforward processes which the business man uses, and not more than twenty per cent on analytical problems. The analytical problems assigned should not be of the puzzle or trick variety.
2. **Drills for rapid calculation**
   It is through drills that speed, accuracy, and confidence will be developed. "Speed is the product of two factors: A mastery of the four fundamental processes and an unhesitating knowledge of the procedure in applying one or more of these processes to the particular problem in hand." See Jones, Teaching Business in Secondary Schools, pp. 44-48. Oral work, various diagrams, and board work all have their place in securing interest in the necessary amount of drill work. The use of the rapid calculation pads effects a valuable saving of time, as figures do not have

to be copied. Since no time is spent in copying, it is possible to measure accurately the time each pupil takes for the solution of the problems.

3. **Clearing up of difficulties**
Part of the recitation period should be taken for explaining step by step the solution of problems assigned to be worked

4. **Reasoning difficulties analyzed**
Many arithmetical difficulties of students are due to lack of comprehension in reading, and to failure to grasp fully the relations existing among the several parts of the problem. Some instruction exercises should be given that will help such students to a better understanding of the printed statements of the problem. The child should always understand the nature of the transaction on which the problem is based.

5. **Habits of verifying work**
Since the work of a business office is always verified for accuracy, the habit of checking work may well be inculcated during the course. Work may be proved by repetition of the original process, if care is taken that the original mistake is not repeated. When the reverse process can be used the results are apt to be more accurate, i. e., proving multiplication by division, column addition in reverse order, etc. Of very great importance is the common sense method of estimating the answer before doing any calculating. This is especially helpful in avoiding errors dealing with the decimal point.

6. **Practice in quantitative thinking**
"Increasingly are business and professional life, as well as home-life and leisure-time activities, coming to demand an understanding and use of measured results and computations based thereon . . . Not unfrequently the complaint is heard that the methods used in the solution of problems as carried out by both students and adults are mechanical and without plan. Studies which have been carried on suggest that much of the reason for failure to solve problems correctly lies in inability to comprehend and express correctly by numbers and symbols the numerical relationships which are stated in words in the problem presented . . . Too much stress can hardly be placed on the need for a terse and symbolic statement of the problem situation before the several steps in the solution are attempted. To bring the conditions of the problem from the form of a verbal statement to that form which utilizes the expression of symbolic relationships calls for an analysis that is truly educative and makes for a real understanding of the issues involved . . . Problem solving of this type is more than a mechanical process. The fundamental operations used are those obviously necessary to the simplification of the statements of relationships expressed." Illustrative are the following statements of quantitative relationships with specific numerical data for each:
   a. Selling price — cost = gross profit
      \$7500 — \$6250 = gross profit
   b. Property assessed × tax rate = amount of tax
      \$4150 × .026 = amount of tax
(See Kitson's Commercial Education in Secondary Schools, pp. 92-94.)

7. **Teaching adjusted to the differing capacities of students**
Certain blocks of work should be required of all students. The more rapid workers may be given supplementary exercises, "adequate for enrichment, sufficient in amount, and broad enough in scope" to challenge the ability of the students.

8. **Testing the results of teaching**

Except for tests dealing with the several fundamental operations of arithmetic, no valid measures exist for comparing progress made by one class with another. The nature of the problem materials which present business transactions is such that considerable time is required for the solution of each problem. A worthwhile test would therefore require more time than is allotted for the usual examination periods. Until more uniform methods of teaching and better techniques of examining are devised, testing in the several topics of business arithmetic must be of local application and measure at one period the achievement in a narrower range of topics than the total of a year's course.

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Actual Business Training by the Cabinet Card Plan, Ellis Publishing Company, Battle Creek, Michigan. A working set with the pupil filling the position as buyer, sales manager, or general manager. Designed to develop initiative and resourcefulness. Send for price list

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New Stone Reasoning Test in Arithmetic. By Cliff W. Stone, Bureau of Publications, Teachers College, Columbia University, New York City. Form I or Form II, $1.25 per 100. Manual of Directions, class portrayal chart, class diagnostic sheet, 65 cents. Specimen set 75 cents

Otis Arithmetic Reasoning Test. By Arthur S. Otis, World Book Company, Yonkers, N. Y. Two forms, A and B. 25 tests, of 2 pages, with directions, key, and class record, 40 cents. Specimen set 10 cents. Test 5 of the Otis Group Intelligence Scale, Advanced Examination, prepared in response to an insistent demand for a valid and reliable reasoning test. A recent university study has shown this test to be more reliable and a better test of arithmetic reasoning than most arithmetic tests, even those requiring 20 to 30 minutes to administer. For grades 4 to 12

Pittsburgh Arithmetic Scales. Public School Publishing Company, Bloomington, Ill. Forms A, B, and C. $1.00 per 100 copies for each form; sample set 10 cents. These are diagnostic tests in the four fundamentals for grades 3 to 9. They were very carefully designed and standardized by the research department of the Pittsburgh, Pennsylvania, Public Schools. Grade norms, year norms, and age norms are provided. The three forms are of equal difficulty and can be used to determine the pupil's progress during the school year. Forms A, B, and C for first, second and third testing, respectively

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Parcel Post Rate Card. A poster giving parcel post rates. May be obtained from most local post offices. Valuable for work in graphs

E. Charts and films

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Don't Cheat Yourself. Bray Productions, Inc., 729 Seventh Avenue, New York. A motion picture. 1 reel. Rental price $5.00 for one day. The United States Department of Weights and Measures gives a practical demonstration for the housewife of methods employed by unscrupulous merchants.

Romance of a Republic—Department of the Treasury. General Vision Company. 104 West 42d Street, New York. A motion picture. Rental price $3.00 for one day. Gives a picture of the work inside the Treasury Department.

Department of Treasury. Edited Pictures System, Inc., 71 West 23d Street, New York. A motion picture. Rental price $3.00 for one day. Management of national finances, including the bookkeeping department, departments devoted to exchange of new money for old, identification of mutilated money.

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COURSE OF STUDY

State of Montana

HIGH SCHOOL
AGRICULTURE

Elizabeth Ireland
State Superintendent of Public Instruction
Helena
1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Agriculture is being offered as a tentative program for the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and the Teachers of Agriculture send from time to time, as this course of study is used, suggestions for its improvement.

The State Department of Public Instruction desires to give full credit, with appreciation, to J. E. Border, State Supervisor of Vocational Education, State College, Bozeman, for his work in preparing this Course of Study in Agriculture.

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ELIZABETH IRELAND
Superintendent of Public Instruction

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COURSE OF STUDY IN AGRICULTURE

I. General Statement

The agriculture of Montana is more varied than in any other state of the union. The state is so large, with such a variation of climatic conditions, soils, altitude, rainfall, and growing seasons, that it presents many problems which the individual farmer must solve. The solution of these problems requires special knowledge, which can be acquired only through special training or by long years of experimentation and experience. The purpose of this course is, therefore, to train the future farmers of Montana to meet these problems and work out their solution. In order to keep pace with the rapid changes that are taking place in our methods of farming constant study is required. It is study and aggressiveness that we wish to develop in our future farmers. This is the thing that will develop the state. We have cheap lands as fertile as any soils in the corn belt and wide expanses of open land that furnish feed for countless head of livestock. It will be the responsibility of our present students to develop these lands and ranges and to pass them on to posterity as fertile and productive as they now are.

In the past most of the agriculture has been taught in schools receiving aid under the Smith-Hughes act. This bill, which was passed in 1917, subsidizes schools that offer courses in vocational agriculture. The instruction must meet the requirements set up by the Federal Board for Vocational Education. The amount of money received by any state is based on the rural population and changes after each census.

II. Administration

The administration of the Smith-Hughes Act in Montana is in the hands of the State Board of Education. This Board determines the policies to be adopted in the state and submits a plan to the Federal Board for Vocational Education. This plan must be in harmony with the provisions of the federal act and must have the approval of the Federal Board. This plan then becomes the Smith-Hughes Law for Montana and the schools are organized to conform to the provisions.

A. The following provisions included in the state plan are some of those that must be met in order to qualify for reimbursement:

1. Smith-Hughes departments may be established only in schools supported by public funds
2. Schools, to be eligible to receive aid under this act, must employ a qualified teacher for twelve months
3. All teachers of Smith-Hughes Agriculture employed must be approved by the State Supervisor of Vocational Agricultural Education and the State Department of Public Instruction
4. A suitable classroom shall be provided and equipped with tables, chairs, files, and equipment needed for teaching the course
5. A room must be provided that is large enough for a farm shop and this room should have at least one door that is large enough to admit pieces of farm equipment and permit the removal of large articles that the students have made in the shop. The shop

must be equipped with the common tools that are used on the farms of the community.

6. The school having a teacher of Smith-Hughes Agriculture must pay him his salary each month. The State Board will reimburse the local Board of Education for one-half of the salary of the teacher for time devoted to teaching vocational agriculture.
7. The school receiving reimbursement under the Smith-Hughes Act must pay transportation of the instructor while in the field supervising projects, conducting evening schools, and conducting field trips with his class.
8. All vocational classes must be at least ninety minutes in length. Schools having 60-minute periods must organize their work for the week so that this much time is given.
9. All vocational students must spend one-half their school day studying agricultural subjects.
10. No school shall require the Smith-Hughes teacher to coach football, track, or baseball, or act as principal of the school.
11. Any student to be eligible to enroll in a vocational agricultural group must have facilities for carrying a project or some form of supervised practice. If a school does not care to enforce this rule, then it must provide some means of carrying out the practical part of the work by supplying land or livestock that the boy may use.
12. All teachers of vocational agriculture and farm shop are required to attend the annual conference of Smith-Hughes teachers.
13. A special teacher of farm shop must have the same qualifications as a teacher of Smith-Hughes Agriculture.
14. The teacher of agriculture may teach any other school subjects, asisgned by the principal or superintendent, but reimbursement will not be made for time devoted to such subjects.

B. Agriculture in small schools

In many schools the classes in vocational agriculture are small, which makes it possible to combine the first two-year classes and the last two-year classes. Under this arrangement one teacher may offer a four-year course in agriculture. This arrangement has been tried in several schools in Montana and has proved satisfactory except in cases where the shop was too small to accommodate so large a number. In such cases the shop class must be divided into two sections.

Each student in vocational agriculture is required to conduct some practical agricultural project on his home farm, as a part of the regular course. This work is under the supervision of the teacher of agriculture. In many instances the boy takes over some enterprise on his father's farm and makes his report on this part of the farm operation, which is very satisfactory, provided the work is on a production basis and handled according to the best practice; i. e., as the project should be handled.

III. Classroom and Equipment

The agricultural classroom should possess the qualifications of any good classroom. It should be properly heated, lighted, and ventilated and should receive proper care from the janitor. An adequate library of reference books, bulletins, and agricultural papers should be supplied. Tables and chairs should be provided for seating the students, thus making it possible to use the room as a laboratory or for F. F. A. meetings.

Suitable charts, pictures, and illustrative material should be collected and used in classroom work. A motion picture projector should be provided where possible as there are many good films and film strips that make valuable illustrative material. There are a few laboratory exercises that require chemical and physical apparatus which need not be purchased by the school if the agriculture teacher and the science teacher cooperate.

Transportation should be furnished by the school, and classes should be so arranged that the agricultural classes may work in the field when necessary without interference with other classes of the school.

IV. The Teacher

The agriculture teacher should be a man with a farm background and in sympathy with rural life and its problems. In order to be qualified to teach Smith-Hughes or vocational agriculture in Montana he must be a graduate of a four-year agricultural college and have at least 25 quarter hours in professional training, 15 of which must be in special methods of teaching vocational agriculture. He should be a man who is willing to keep up with all new developments in his profession. The course is designed to prepare boys to farm and conduct the farm business. This course is not intended to prepare boys for college, although the colleges are glad to receive them and find that they make as good students as those who have received academic training. Agriculture is considered a laboratory science in figuring college requirements.

V. Procedure

A. General statement

In Smith-Hughes departments, only students who can carry a project are admitted. This rule is made to eliminate those students who wander around from department to department and are in school only because they have no place else to go. The presence of such students in a vocational class tends to disrupt the vocational attitudes of the other boys.

The funds for reimbursed Smith-Hughes departments are limited and the number of Smith-Hughes schools must be kept within the budget so the funds available are not exceeded. In order to qualify for aid, a school must employ for twelve months a qualified teacher who has been approved by the State Supervisor of Vocational Agricultural Education; it must furnish transportation for visiting projects, for holding evening schools, and for conducting field trips and other activities of the department.

The Smith-Hughes department will be visited two or three times a year by the supervisor to give help and advice to the teacher and to assist him in doing a better job. If the work of the department comes up to the standards required by the state, the school will be reimbursed for one-half of the instructor's salary for time devoted to teaching vocational agriculture.

All students taking vocational agriculture are required to spend one-half of their day in this department. All vocational periods are 90 minutes in length except in schools having one-hour periods and in these cases special arrangements must be made. The longer period is required on account of field trips and the type of instruction given.

The work in farm shop is a part of the vocational program and should be correlated with the other instruction given. The teacher of agriculture should also be the shop teacher but where a special teacher is employed his time will be considered for reimbursement if he meets the requirements of the agriculture teacher.

B. Adult program

Th adult program in the Smith-Hughes department is in the form of evening schools and must cover at least ten lessons on some special phase of agriculture or farm mechanics, accompanied by a follow-up program. Evening school classes may be held at any time that is convenient for the group taking the instruction. The instruction in the evening schools should be conducted on the conference basis, letting the farmers select the subject matter and problems that they wish to discuss and study. The follow-up work should be in the form of improved practice on the farms of the men and women taking the course and takes the place of the project in all-day classes.

It has been found that if the instruction in evening school work is given at just about the time the job is going to be done on the farm it is most effective. These lessons may, however, be distributed over the entire year.

C. Organization

In order to carry out the purpose of the course the subject matter must be organized in such a way as to require straight thinking on the part of the student. This is best done by the problem, conference, and project methods.

A problem, to be worth considering in selecting the content of the course, should meet at least three of the following standards set up for selecting subject matter:

1. "It should be based upon a true-to-life situation"
2. "It should be interesting in itself, or clearly connected with other things that are interesting"
3. "It should be clear and definite in statement"
4. "It should be of proper scope and difficulty"
5. "It should call for thinking of superior quality"

Too much of our curriculum building in agriculture has been done by the textbook method. A course of study should be based on the needs of the pupils to be taught and on specific requirements of the occupation for which the instruction is being given.

The course, to be efficient, must teach the student to think out his own problems when they present themselves in after life. It must teach the pupil to differentiate between good and poor agricultural practices. Subject matter should be selected that will aid the student in subsequent thinking and should be presented in such a manner that it will teach the boy where and how to find information needed. If the content of the course is carefully selected a great part of the material given in the past will be discarded and usable material put in its place.

D. Presentation

There are several ways of presenting subject matter, but the one to be used in the course in agriculture is a combination of conference, problem, and project methods. There will be many things that the boys already know, which information may be brought out by the conference method. In using this method the teacher can usually also find new problems to present to the class. Only true-to-life problems should be used and should be carefully selected. Study these problems in the classroom and in the field. A well-organized field trip will furnish material for several days' study. Such trip gives the student both the common practice and the practice recommended by the experiment stations. The project method brings the student into closer contact with the actual problems of farming and teaches him many valuable things about farm operations. It also gives him an interest in agriculture that can be created in no other way. The projects should be large enough in scope to take most of the boy's time and should be enlarged from year to year so that when the boy has completed his course of instruction he will be established as a farmer.

VI. Content

The suggested course of study for a four-year high school is as follows:

First Year

Animal Husbandry
Shop (Farm Mechanics)
**Project

English
*Elective

Second Year

Crops
Shop (Farm Mechanics)
**Project

English
*One Elective

Third Year

Intensive study of the major enterprises of the community. (An outline for this work is being prepared.)

Farm Shop
**Project

English
*One Elective

Fourth Year

This year's work should be only for boys who are going into farming and should be in the form of a management study of their own situation.

English
*One Elective

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*Note: In selecting the electives, college requirements might be kept in mind. In the event that the student knows that he is going to "drop out" on graduating from high school it would be well to include Economics, Sociology, Business Arithmetic, or Bookkeeping.

**Note: School credit may be given for project work but if it is given it should be only for any project that is of size and scope large enough to be classed as a man's job and conducted according to the best recommended practice. The school authorities should be the final judges as to what this credit will be.

ANIMAL HUSBANDRY

A. Sheep

1. **Outlook for the sheep industry**
   - a. Importance of the sheep industry in the United States
   - b. Future of the sheep industry
   - c. Local importance

2. **Types of country where sheep are raised**
   - a. Location of range country
   - b. Characteristics of a suitable sheep range
   - c. Types of sheep farming

3. **Capital required for successful sheep production**
   - a. Investment in land
   - b. Investment in sheep
   - c. Amount invested in equipment
   - d. Amount of operating capital required
   - e. Losses to be replaced each year

   Note: This subject can best be studied in the field, taking inventory of several sheep outfits and figuring investment per head. This can be done for range and farm flocks.

4. **Financing the sheep enterprise**
   - a. Local banks
   - b. Loan companies
   - c. Insurance companies
   - d. Livestock loan associations
   - e. Sheepgrowers' associations
   - f. Federal Farm Loans

   Note: Literature may be secured from various organizations. The local banks will be the authority in any one community and should be consulted. The different methods of financing should be studied.

5. **Study of home farm for sheep raising**
   - a. Type of country in which the farm is located
   - b. Range that is available
   - c. Possibilities of raising sheep if no range is available

   Note: Study the home farm with a view to raising sheep, noting changes that would have to be made and location of range. In cases where sheep are raised on the home farm study the layout.

6. **Equipment that would be needed on home farm**
   - a. Sheds and buildings
   - b. Camp equipment
   - c. Small tools, wagons, etc.

   Note: Equipment has been studied in 3 above. This knowledge should be applied to home farm. Look up equipment recommended in bulletins, books, etc., and apply to local needs.

7. **Possibilities of marketing products**
   - a. Demand for lambs—returns
   - b. Possibilities of selling breeding ewes of quality you would raise
   - c. Sale for rams of quality you would produce

d. Finishing lambs for market
e. Sale of wool

Note: These questions should be studied in relation to the kind of sheep to produce. A study of local enterprises, bulletins and books would be helpful. Market reports will be a great help. A study of local breeds will give an idea of what these products usually bring.

8. **Breed of sheep to raise**
   a. Range sheep
   b. Pure-bred
   c. Cross-bred
   d. Breeding stock
   e. Market demands in determining the breed of sheep

   Note: The sheepmen can tell which breeds are easiest to handle on the range and which breeds are popular in the community.

9. **Management on the range**
   a. Size of bands
   b. Range management
   c. Shelter
   d. Wintering on the range
   e. Lambing
   f. Docking, castration, weaning
   g. Shearing
   h. Camps
   i. Breeding
   j. Care of the breeding flock
   k. Marketing

   Note: A large amount of this information can be gathered by visiting sheep ranches from time to time. State publications—books on range sheep production—will prove helpful.

10. **Farm flock management**
    a. Size of farm flocks
    b. Arrangement of fields
    c. Winter feed, care and management
    d. Marketing

    Note: Lambing and shearing were taken up under Range Management above.

11. **Sheep diseases**
    a. Diseases found in flocks of the community
    b. Sanitation as control of disease
    c. Detecting disease in the flock
    d. Treatment of diseases

    Note: Study only diseases prevalent in your community.

12. **Poisonous weeds that affect sheep**
    a. Varieties of weeds
    b. Seasons when these weeds are dangerous
    c. Identification of weeds
    d. Cure for sheep affected

    Note: Field study of these weeds will give habits of growth and identification. Bulletins, books.

13. **Sheepgrowers' associations**
    a. Montana Wool Growers' Association
    b. National Wool Growers' Association
    c. National Wool Marketing Association

B. Beef cattle

1. **Outlook for the beef industry**
    a. Amount of beef produced in the United States
    b. Importance of beef industry in Montana
    c. Local importance
    d. Future of the cattle industry

    Note: This subject should be studied in the light of future demand for cattle.

2. **Home farm for beef cattle**
    a. Available range close to farm
    b. Type of range required
    c. Carrying capacity of range or pastures
    d. Available water
    e. Running without range

    Note: The farm home of the students should be considered. Let them make surveys of land that could be used as range.

3. **Capital required**
    a. Amount invested in cattle
    b. Land investment
    c. Investment in corrals, sheds, and equipment
    d. Amount needed for operating expenses

    Note: An inventory of the beef cattle ranches in the community and these figures reduced to the per head basis would give a fair estimate of capital required.

4. **Financing the beef enterprise**
    a. Property owned
    b. Borrowing money for beef cattle
        (1) Local bank
        (2) Breeders of livestock
        (3) Loan companies
        (4) Livestock finance corporations
        (5) Individuals

    Note: Information may be secured from stockmen and bankers.

5. **Equipping the farm for raising beef cattle**
    a. Most economical sheds to build
    b. Type of corrals to build
    c. Farming machinery necessary
    d. Other equipment that will be needed

    Note: A careful study should be made of equipment used for handling cattle and the best types selected for the beef enterprise.

6. **Kind of stock to buy**
    a. Pure breds
    b. Grades

    Note: The selection of stock should depend on the capital available, market for surplus stock, and the time that can be devoted to the enterprise. Study prices secured from pure bred herds and common cattle, cost of advertising, etc.

7. **Range management**
    a. Equipment needed
    b. Hired help
    c. Breeding practices for improvement
    d. Wintering breeding stock

- e. Summer management
- f. Management of the range
- g. Brands, branding and brand laws
- h. Dehorning
- i. Castration
- j. Preparing for market
- k. Marketing—market organizations—shipping—buyers

Note: There is a great deal of literature on these subjects and it should be reviewed. Local enterprises should be used as basis of instruction.

8. **Management of farm herds**
   - a. Equipment, fences, etc.
   - b. Hired help
   - c. Improvement of herd (Pure bred and grade)
   - d. Pastures and pasture management
   - e. Winter feeding
   - f. Branding, dehorning and castration
   - g. Weaning calves
   - h. Preparing for market
   - i. Advertising, shows, etc.
   - j. Markets, marketing organization, shipping, market classes

   Note: There is some difference between stock raised on small farms and range cattle. This division should be studied from the standpoint of the man raising cattle on his farm.

9. **Cattle diseases**
   - a. Diseases that are prevalent in the community
   - b. Detection of disease in the herd
   - c. Diseases that should be quarantined
   - d. Obstetrical cases that can be cared for by the farmer
   - e. Treatment for diseases

   Note: Diseases cause a great deal of loss and the operator should be able to recognize the diseases and know what to do in case a veterinary is not available.

10. **Cattle breeders associations**
    - a. Montana Shorthorn Breeders' Association
    - b. Montana Hereford Breeders' Association
    - c. Montana Stockman's Association (General)
    - d. National Livestock Marketing Corporation

C. Dairy cattle

1. **Outlook**
   - a. Output of dairy products compared with consumption in the United States
   - b. Output of dairy products compared with consumption in Montana
   - c. Local importance

2. **Type of farm for dairying**
   - a. Quality of grass for dairy cattle
   - b. Length of the pasture season
   - c. Available water for cattle
   - d. Quality of hay put up
   - e. Distance from market

3. **Equipment needed for dairy cattle**
   - a. Barns
   - b. Milking machines

c. Feed mills
d. Pens, fences, etc.
e. Equipment for handling the milk
f. Milk house and equipment

Note: Study the equipment on several first-class dairy farms. Take inventory of several farms and compare with equipment recommended. Low cost per cow is important.

4. **Capital required for dairy enterprise**
   a. For stock
   b. Equipment
   c. Operating expenses

Note: Study this from the standpoint of the boys' home farms or some typical dairy farm of the section.

5. **Financing the dairy enterprise**
   a. Local banks
   b. Loan companies
   c. Farm loan companies
   d. Insurance companies
   e. Federal farm loans
   f. Livestock loan associations
   g. Breeders

Note: Secure literature from loan companies—consult local banks.

6. **Establishing the enterprise on the home farm**
   a. Barns
   b. Pastures
   c. Milk house
   d. Producing feed
   e. Utensils

Note: This study should include remodeling of barns and milk houses, arranging pastures, and feed production.

10. **Selection of stock**
   a. Breed
   b. Type of animal wanted
   c. Records of production
   d. Stock raised in community
   e. Chance to sell surplus stock

8. **Herd improvement**
   a. Culling out poor producers
   b. Cow testing associations
   c. Type of bull to use
   d. Record back of the bull
   e. Raising your own stock

Note: Records of cow testing associations give a wealth of information on this subject. There is a good deal of literature on this subject. Look for improvement being carried on in your community.

9. **Raising the dairy calves**
   a. Gain to be made by raising your own calves
   b. Weaning time
   c. Skimmed milk calves
   d. Prepared calf foods
   e. Grain mixtures to feed
   f. Disposal of bull calves

g. Disease prevention: Dehorning with caustic

Note: Study subject from cost standpoint; whether it would be cheaper to buy cows; how to care for the calves.

10. **Feeding dairy cows**
    a. Balanced ration
    b. Pasture and pasture grasses
    c. Quality of hay
    d. Succulent feeds
    e. Water
    f. Minerals
    g. Vitamines

    Note: Use home grown feeds in figuring rations and planning feeds. Study good pastures and see what kind of grasses they contain. There is a great amount of literature on this subject.

11. **Care of the dairy bull**
    a. Feed
    b. Exercise
    c. Housing

12. **Production of sanitary milk**
    a. Clean barns
    b. Clean cows
    c. Sanitary milking vessels
    d. Care of milking machine
    e. Cooling the milk
    f. Storage of milk
    g. Care of cream separator

    Note: Bacterial count is made on all dairies and is published. This information may be had from local health officers. Study these dairies and see why the count is low or high. Make sediment tests. Best recommended practices should be studied.

13. **Dairy manufacturing**
    a. Butter making
    b. Testing dairy products
    c. Cheese making
    d. Ice cream making

    Note: Cooperation with local creamery man will give the boys valuable instruction. Some boys may want more instruction which could be secured by having them work in one of the local plants.

14. **Dairy laws**
    a. U. S. standards
    b. State dairy laws

15. **Marketing dairy products**
    a. Milk route
    b. Cream to creamery
    c. Home-made products
    d. Veal calves
    e. Breeding stock
    f. Culls

16. **Diseases of dairy cattle**
    a. Tuberculosis
    b. Impaction
    c. Troubles at calving time
    d. Bloat

- e. Milk fever
- f. Caked udder
- g. Obstruction in teat
- h. Abortion

D. Swine production

1. Outlook

- a. Swine production in the United States
- b. Swine production in Montana
- c. Local importance of swine production

Note: Study this production in the light of the demand and the effect upon the future of the swine industry.

2. Types of farming best suited to pork production

- a. Dry farms
- b. Irrigated farms

Note: This subject should be studied in connection with feeds that can be grown, available pasture, and water supply.

3. Equipment needed for raising hogs

- a. Hog houses
- b. Hog pens
- c. Pasture fencing
- d. Feeding equipment
- e. Small tools

Note: An examination of the equipment on the best hog farms will give the student an idea of the best equipment needed. Have the class take inventory of several hog farms and figure what is needed and cost per unit. Make comparisons of equipment used with that recommended by experiment stations.

4. Financing the swine enterprise

- a. Local banks
- b. Loan associations
- c. Federal farm loans
- d. Breeders

5. Fitting the home farm for hogs

- a. Building that will be needed
- b. Arrangement of pastures
- c. Equipment that will have to be bought
- d. Providing a water supply

Note: This subject should be studied as much from the local boy's home farm as possible. He may plan his farm for the enterprise, figuring costs, number of head that could be handled, and cost of operating.

7. Swine management

- a. Selecting the breed to be raised
- b. Selecting breeding stock
- c. Housing
- d. Feeding breeding stock
- e. Number of litters a year
- f. Care of sow at farrowing time
- g. Weaning—castrating pigs
- h. Growing young stock
- i. Preparing for market (fattening)
- j. Advertising shows, fairs, etc.
- k. Markets and market quotations
- l. Marketing

m. Farm butchering and curing meat

Note: Make a study of the farms where improved practices are in operation. Study recommended practice advocated by experiment stations. Compare practices used in the community.

7. Diseases and sanitation

a. Diseases of swine common to the community
b. Preventing spread of disease
c. Sanitation
d. Remedies for diseases

Note: Make field trips to places where sick hogs can be found. Study the sick animals. Note sanitary conditions or lack of them about the place. There is an available wealth of good literature on this subject.

E. Poultry

1. Outlook

a. Importance of the poultry industry in the United States
b. Importance of poultry industry in the state
c. Local importance of poultry industry

Note: Study the production figures from the Outlook, published by the U. S. Dept. of Agriculture. Available supply and consumption of poultry products. Study the literature issued by State Department of Agriculture and make survey of local situation.

2. Where poultry is raised

a. Farm flocks
b. Backyard flocks
c. Commercial plants

Note: Almost any good text will give information and figures on this point.

3. Equipment needed

a. Housing
b. Brooder house and equipment
c. Feeders
d. Nests
e. Pens
f. Water cans
g. Shipping crates
h. Egg cases or cartons
i. Incubators
j. Artificial lights

Note: Study the best plants in the community. Make lists of equipment used. Note construction of buildings and arrangement of equipment. Secure opinion of owners concerning types of equipment. Most of the experiment stations have this information in bulletin form.

4. Breeds to raise

a. Egg producers
b. Meat birds
c. General purpose

Note: This subject should be studied from the standpoint of the producer and market demands. Which breeds or types will bring the greatest returns?

5. **Capital required for**
    - a. Houses and equipment
    - b. Feeds
    - c. Operating expenses
    - d. Stock

    Note: Plan equipment for home farm and estimate the capital outlay that would be required.

6. **Poultry management**
    - a. Getting started
    - b. Selecting stock
    - c. Flock improvement
    - d. Housing
    - e. Feeding—water—minerals
    - f. Sanitation
    - g. Culling
    - h. Marketing culls
    - i. Incubation
    - j. Brooding
    - k. Selling surplus cockerels
    - l. Caponizing
    - m. Marketing eggs
    - n. Marketing breeding stock
    - o. Artificial lighting

    Note: Study the best plants and compare with recommended practice. Determine if possible the factors that have made the enterprise a success or failure. Low cost of production should be kept in mind in this study rather than high production.

7. **Poultry diseases**
    - a. Tuberculosis
    - b. Roup
    - c. Lice and mites
    - d. White diarrhea
    - e. Scaly leg
    - f. Leg weakness
    - g. Bumble foot
    - h. Chicken pox
    - i. White comb

    Note: During the year there will be occasion to observe most of these diseases in flocks in the community. Study the symptoms of the live birds and internal changes found in post-mortem. Study the literature on these diseases.

8. **Commercial hatcheries**
    - a. Breeder hatcheries
    - b. Hatcheries which buy hatching eggs
    - c. Cut-price hatcheries
    - d. Accredited hatcheries

    Note: A careful study should be made of all hatcheries selling chicks in the community. Compare flocks bought from each one where possible.

9. **Capons**
    - a. Value compared with other poultry
    - b. Care required
    - c. Losses resulting from caponizing
    - d. Preparing for market
    - e. Marketing

    Note: Capon projects should give considerable data relative to cost of producing capons.

CROPS AND SOILS

A. Introductory statement

The content of a course of study in Crops and Soils should be determined by the major farm enterprises of the community even more closely than is the content of other agricultural courses. The livestock problems that confront farmers of one community are similar to those in other sections of the State, but the crops grown, the methods used in producing and marketing them, and the relative importance of these crops vary widely, not only between communities, but often within the community itself.

1. **The method of determining the time and emphasis to be given to any crop in any section is as follows:**
   - a. Study first and most thoroughly those crops that provide the best outlet for the resources of the farmers in that particular section
   - b. Study the crops around which the farming business of that section is built
   - c. Study the crops upon which farmers depend for the major portion of their cash income
   - d. Study next those crops that are contributory rather than income crops, as oats, barley, alfalfa and other feed crops

If time is available, some time may be devoted to those crops grown for home needs, for emergency feeds, etc., but which do not either directly or indirectly exert a major influence on the farm income.

2. **Objectives**

The subject matter to be taught regarding each crop may safely be left to the teacher of agriculture, and an outline of the subject matter for one crop may well be used generally for all. In connection with each crop enterprise taught, the teacher should endeavor to develop the following general abilities in his pupils:

- a. To determine the acreage of the crop that should be planted on a specific farm under existing market conditions
- b. To finance the growing of the crop
- c. To select and secure suitable seed
- d. To plan a cropping and rotation system that will maintain soil fertility and yields
- e. To prepare a suitable seedbed at the lowest possible cost
- f. To prepare seed for planting
- g. To plant the seed at the time and with the method that will insure maximum yields
- h. To manage the growing crop, irrigate, cultivate, in such a way as to secure the largest yield at the least cost
- i. To control weeds, insects, rodents, and plant diseases
- j. To harvest the crop in such a way and at the time that will secure the maximum yield of highest quality product
- k. To market the crop at the time and in the way that will secure the highest price consistent with the quality of the product
- l. To keep records on each crop sufficiently complete and accurate to make it possible to determine whether that crop was produced at a profit or a loss
- m. To select, operate and maintain the machinery necessary to produce this crop

FARM MECHANICS

A. Aims

The aim of a high school course in Farm Mechanics should be "to develop in each boy the knowledge, skills, ideals and appreciations he will need to select, operate, maintain and repair the machinery and equipment necessary for modern farming, and to do the other construction and repair work that may be profitably done by efficient farmers".

B. Determining subject matter of the course

As a basis for determining the subject matter of this course, 290 Montana farmers, parents of boys who were registered in high school farm mechanics courses, were asked to designate what they wished their sons to be taught. In their opinion the following phases of Farm Mechanics are the ones deserving of major emphasis in high school courses:

1. Gas engine, auto, and tractor repair
2. Farm machinery repair and selection
3. Farm building repair and maintenance
4. Tool sharpening
5. Farm blacksmithing
6. Rope work
7. Repairing fences and gates
8. Farm building construction
9. Harness repair
10. Electric wiring
11. Farm woodwork (including finishing and painting)
12. Farm plumbing
13. Soldering and sheet metal repair
14. Concrete construction
15. Glazing

Suggested Distribution of Time for Two-Year Course

(See Shop Manual and References)

First Year

A. Rope work

Aim: The ability to tie the knots and make the hitches and splices that efficient farmers use in their farming operations

1. **Exercises and projects**
   - a. Square knot
   - b. Weaver's knot
   - c. Bowline knot
   - d. Whipped end
   - e. Half, clove and timber hitches
   - f. Long splice
   - g. Short splice
   - h. Rope halters

B. Tool sharpening and repair

Aim: The knowledge and skill necessary to keep the tools on a typical farm in good condition

1. **Projects**
   - a. Sharpening plane bits, wood chisels, butcher knives, axes, and hatchets
   - b. Sharpening auger and drill bits
   - c. Filing, setting, and cleaning rip and crosscut handsaws, crosscut saws, circular saws and buck saws
   - d. Replacing broken handles in shovels, pitchforks, axes, etc.

C. Harness repair

Aim: The skill and knowledge necessary to do the harness repair jobs that efficient farmers do in their own shops

1. Skills

   Making waxed end, stitched splice, riveted splice

2. Projects

   Cleaning, oiling and repairing harness

D. Glazing and window repairs

Aim: Ability to replace broken window panes quickly and easily

1. Skills

   Cutting glass to size, driving glazer's points, mixing and applying putty

2. Projects

   Replacing broken window panes

E. Soldering and sheet metal repair

Aim: The ability to do the repair jobs on sheet metal equipment that will save time, labor and money if done in the home shop

1. Skills

   Tinning a copper, soldering small leaks, sweating on patches, running seams

2. Projects

   Repairing milk cans, water pails, wash boilers, auto radiators, etc.

F. Farm woodwork

Aim: Sufficient practice in planning, drawing, constructing, and painting to enable the pupil to do the simpler woodwork construction and repair jobs that can be economically done on the farm

1. Projects
   - a. For the farm shop
     Saw filing clamps, drawing boards, drawing board holders, saw horses, work benches, tool chests, bench stops, tool racks, etc.
   - b. For the farm home
     Ironing boards, step ladders, kitchen stools, kitchen tables, etc.
   - c. For the farm
     - (1) Constructing hog and poultry feeders, hay racks, individual hog houses, loading chutes, wagon boxes, beet racks, gates, sheep and hog troughs, feed bunks for cattle, etc.
     - (2) Repairing wagon boxes, farm buildings, gates, etc.

Suggested Teaching Devices

A. Field trips

Field trips in the autumn and spring for the purpose of testing the ability of these pupils to find and do farm mechanics jobs under farm conditions will do much toward increasing the interest in shop work and provide true-to-life projects. One day may be spent in finding jobs and securing materials, and the following day in doing these jobs.

B. Home projects

To give these pupils further opportunity to apply what they have learned to real farm mechanics' jobs on the farm, credit should be given for home projects completed by them. A list of projects suitable for first-year pupils may include:

A workbench for the home shop, a tool rack for shop, sharpening the plane bits, chisels and other tools in the home shop, repairing gates, purchasing tools, repairing broken windows, making poultry or hog feeders, splicing hay ropes, making rope halters, replacing broken shovel handle, sharpening lawn mower, filing and setting handsaws, soldering leaky water pails

C. Improving home shop

Pupils should be encouraged to improve the home repair shop. A program of repair may include an inventory of tools and equipment; listing additional tools and equipment needed; selecting and purchasing new tools; repairing and sharpening tools; rearranging home shop; building cabinet and racks for tools and materials, etc. Credit should be given for this type of work, equivalent to that given for similar work done in the school shop.

Second Year

A. Farm blacksmithing

Aim: The ability to do the simpler farm repair jobs that require the use of a forge and hot metal tools—the jobs that will save time, labor and money if done in the home shop

1. **Projects**

   Hay and hog hooks, repair: chain links, clevices, chain grab hooks, neckyoke irons, staple pullers, tongs, cold chisels, punches, wrecking bars, redressing cold chisels and punches, sharpening plow lay, sharpening cultivator shovels, etc.

B. Farm buildings

Aim: The skill and knowledge necessary to plan, construct and repair small farm buildings

1. **Skills**

   Estimating bills of material, drawing plans, framing doors and windows, cutting common, hip and jack rafters, painting

2. **Projects**

   Planning and constructing garages, granaries, movable hog houses, poultry houses, machine sheds; repairing and repainting buildings

C. Farm plumbing

Aim: The knowledge and skill necessary to install a simple farm water system and to keep it in working order

1. **Skills**

   Cutting pipe to length, selecting and ordering fittings, reaming pipe, cutting threads, fitting pipe, cutting gaskets

2. **Projects**

   Design and install simple water system, repair pumps, repair faucets

D. Concrete

Aim: The ability to plan and do the concrete construction jobs that a farmer should be able to do

1. **Skills**

   Estimating and ordering materials, mixing concrete, laying out and levelling foundations, bracing forms

2. **Projects**

   Foundations for small buildings, well curb and platforms, sidewalks, steps, etc.

E. Farm machinery repair

Aim: The knowledge and skill necessary to keep the machinery of the pupil's home farm operating efficiently

1. **Skills**

   Ordering and replacing broken and worn parts, removing rusted nuts, removing pulleys and sleeves from shafts, removing and replacing bushings, rebabbitting bearings, removing broken cap screws, brazing broken castings, fastening machinery to concrete floors and tile walls, riveting, lacing belts, adjusting machinery

2. **Projects**

   Overhaul common farm machinery (mowers, hay rakes, plows, wagons, etc.). Set up new machinery; adjust and test assembled machines; painting machinery.

F. Gas engine, auto and tractor repair

Aim: The ability to do the repair jobs on gas engines, autos and tractors that would save time, labor and money if done in the home shop with ordinary tools and equipment

1. **Skills**

   Adjusting and cleaning carburetor; cleaning carbon; grinding valves; timing valves; timing ignition; tightening bearings; trouble shooting

2. **Projects**

   Overhauling stationary gas engines; overhauling autos and tractors

G. Teaching devices

1. **Farm machinery inventory on home farm**

2. **Home projects**

   A list of home projects suitable for second-year pupils may include: building a farm shop, a concrete sidewalk; installing a simple water system; repairing farm machinery; overhauling gas engine; repairing auto; building movable hog house; rebabbitting bearings on machinery; retempering cold chisels and punches; building a forge; repairing gates and fences.

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COURSE OF STUDY

State of Montana

HIGH SCHOOL
HOME ECONOMICS

Elizabeth Ireland
State Superintendent of Public Instruction
Helena
1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Home Economics is being offered as a tentative program for the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and the Teachers of Home Economics send from time to time, as this course is used, suggestions for its improvement.

The State Department of Public Instruction desires to give full credit, with appreciation, to Rua Van Horn, State Supervisor of Vocational Education, State College, Bozeman, for her work in preparing this Course of Study in Home Economics.

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COURSE OF STUDY IN HOME ECONOMICS

PART ONE—HOME ECONOMICS

For Grades Seven, Eight, Nine, and Ten

General Suggestions

I. Introductory Statement

The work in Home Economics consists of the all-day home economics classes conducted in the high schools for students and the Home Economics classes conducted under the vocational programs for adults.

The challenge of the seven cardinal principles of education makes it imperative that studies in home economics education, "give the student a well-rounded conception of the many responsibilities contributing to worthy home membership". The topics, problems, and activities suggested in this course of study are based, as far as possible, on the students' present needs, interests, and home responsibilities. The emphasis is on the development in the individual student of attitudes, appreciations, and abilities to meet these present responsibilities and to gain some appreciation of the profession of homemaking.

II. Objectives

A. To help the girl to see her relation to her present and future home, and to the family group, rather than to focus her attention on one or two of the skills involved in homemaking

B. To help the girl create a more abundant life in her individual home

C. To develop knowledge, appreciations, attitudes, and judgment in such a way that the point of view of the girl may change as values and present conditions change

III. Administrative Problems

A. Units of credit

The completion of the work as indicated for each of the two years (Home Economics I and Home Economics II) entitles the student to two units of credit, one for each year's work.

In those schools in which home economics is not taught in the seventh and eighth grades as herein indicated, the work of the ninth grade must of necessity be more elementary than in those schools where the students of the seventh and eighth grades have been taught the units of home economics indicated in this outline. When the ninth grade students have not had home economics in the seventh and eighth grades, it is recommended that their work begin with that herein outlined for grades seven and eight. Because of the greater maturity of these students and the longer periods devoted to study, it should be possible to cover the work indicated in much less time than it could be covered in the seventh and eighth grades. After completion of the units outlined for the seventh and eighth grades, the class should take up the work outlined for grade nine. The class will, of course, not be expected to complete all units of work assigned to grade nine (Home Economics

I). The units of work not completed by the ninth grade should be taken up by the tenth grade (Home Economics II). It is not expected that the course in Home Economics II will be completed as outlined herein in those schools where it is necessary for the high school to teach the elementary home economics subject matter in addition to that outlined for the ninth and tenth grades. The interest and ability of the class, together with the enthusiasm of the teacher and her organizing powers, will very largely determine the number of units that will be covered.

B. Qualifications and training of teachers of home economics

While the certification law of Montana permits a teacher of home economics to be granted "Special Certification", valid to teach home economics in the high school, on lesser qualifications than those required for graduation from a fully accredited four-year college or university, nevertheless the standards of accrediting set up by the State Board of Education recommend that a teacher of high school subjects be a graduate, or the equivalent, of a fully accredited four-year college or university and that the practice of a teacher being assigned to teach subjects outside of the major field of preparation be discouraged.

1. The State Department of Public Instruction recommends that, insofar as is possible, all teachers of home economics should have as a minimum preparation the following pre-requisites:
   a. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in the branch of home economics to be taught. If it seems advisable, the school systems employing the teacher may deduct five hours for each unit of credit earned in high school in the branch of home economics to be taught.
   b. Evidence of mastery of the subject matter and skills of the home economics curriculum for which professional training is sought
   c. Supporting courses in related home economics subjects
   d. Courses in education, including
      (1) Special methods in the home economics subjects
      (2) Organization and administration of work in home economics
      (3) Supervised practice teaching in home economics
   e. Evidence of responsibility in homemaking

IV. Texts

Courses in homemaking should be taught by the use of several reference texts rather than by the use of a single text. The references listed with each unit suggest many recent and valuable helps. The bibliography includes a starred list of books which are the most inclusive for each particular unit, and will therefore be found most useful when the library facilities are limited.

V. Time Allotment

A minimum of sixty minutes weekly should be allowed for work in grades seven and eight, although two sixty-minute periods a week have been the basis of plans for the units in these grades.

A sixty- or ninety-minute period, daily, is allotted for home economics courses in the high school.

VI. Attainments

The attainments, in terms of outcomes, are given with each unit of work throughout the course as the separate units are taken up.

VII. Procedure and Content

A. General statement

Several units of work are suggested for each year of the home economics course. The sequence of the units suggests a possible plan of arrangement, but each teacher should adapt the order of units as well as the topics and problems to the needs of the students, after she has secured as much information as possible concerning their homes and the community.

B. Organization of classes

The teacher who plans all of the work for the class, dictates directions, and hands out ready-made conclusions cannot expect the pupils to learn to make decisions for themselves. The problem-solving or problem-project method suggests an organization whereby the pupils learn through active participation. The important thing is to have interesting problems, pertinent to the students' interests and needs, to be solved. The solution of the problems may involve any or all of the ordinary teaching methods.

The individual differences of students may be met by permitting the more able pupils to do more difficult or additional creative problems, by giving them an opportunity for more library reading on problems of particular interest, and in some cases permitting them to act as the teacher's assistants in laboratory work. The slower students should undertake fewer and simpler creative problems, but should always participate in the solution of problems which develop the fundamental principles of the unit.

C. Organization of subject matter or units

The units present material concerned with the various phases of homemaking and have been arranged to suggest a related and continuous program beginning with the seventh and ending with the tenth grade.

	Approximate Number of Lessons
Grade Seven	
Unit 1—Important Homemaking Responsibilities of a Seventh Grade Girl	6– 8
Unit 2—Selection and Making of the Laboratory Uniform	28–30
Unit 3—Health Habits and Breakfast for the School Girl	28–32
Grade Eight	
Unit 1—Preparation of Food for the Home Luncheon	28–32
Unit 2—Care of Younger Brothers and Sisters	8–12
Unit 3—Selection and Construction of a Simple Cotton Dress	28–32

Grade Nine—Home Economics I	Weeks
Unit 1—Social Customs and Courtesies	1– 2
Unit 2—Meal Service and Health	13–16
Unit 3—Child Development	4– 5
Unit 4—Clothing: Selection, Construction, and Care	10–13
Grade Ten—Home Economics II	
Unit 1—Food Preservation	2– 3
Unit 2—Family and Social Relationships	3– 5
Unit 3—Construction and Remodeling of Wool and Silk Garments	7–12
Unit 4—Nutrition and Family Meals	6– 9
Unit 5—Health and Good Looks	2– 3
Unit 6—The Home: Selecting, Furnishing, and Managing	6– 8

D. Home project work

Home project work should be a definite part of the homemaking program for the following reasons:

1. The girl's own home is the best testing laboratory for information gained in class
2. New knowledge is gained through the solving of her problems
3. Skill in management is developed
4. Skill in manipulation is developed
5. Home needs are met

VIII. Outline of Study

GRADE SEVEN

Important Homemaking Responsibilities of a Seventh Grade Girl

(Six to eight lessons)

Aims

1. Ability to assume daily and weekly care of the bed
2. Appreciation of the effect of proper storage on service and appearance of garments
3. Ability to devise inexpensive storage space to provide more adequate care of clothes

Care of the bed

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to make a bed correctly and quickly	No one likes to awaken on a cold morning to find the covers pulled off his feet. What is the correct way to make a bed quickly and so that the covers stay in place? Have some Girl Scout demonstrate bed making. Allow each girl to miter a corner.	I. Daily care of bed A. Airing B. Bed making 1. Correct time to make 2. How to make C. Bedding 1. Blankets vs. comforters 2. Length of sheets 3. Care of bedding 4. Care of mattress	Elementary Home Economics, 1931—Matthews A Girl's Problems in Home Economics, 1931—Trilling, Reeves and Williams Junior Home Problems—Kinyon and Hopkins

The effect of proper storage on the appearance of garments

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the importance of caring for clothing	The members of the class will want to make a good attendance record so they will not have time to do very much to their clothes on school mornings. What must each girl do each night so that her clothes will be ready in the morning? What care will she probably need to give some of her garments over the week-end?	I. The clothes closet A. Types of storage spaces 1. Closets a. Shallow b. Deep c. Wardrobe d. Curtained 2. Dressers or chests of drawers 3. Cedar chest 4. Boxes B. Equipment for storage 1. Dresses and coats a. Rods and poles b. Hangers	The Clothes Closet—Montana Extension Service A Girl's Problems in Home Economics—Trilling and Williams
Ability to devise ways of caring for clothing	What are some of the improvements that members of the class might make to keep their clothes from becoming wrinkled and dusty?	c. Drawers d. Coverbags 2. Hats a. Bags b. Boxes c. Care at school 3. Shoes	
	The discussion should be paralleled by home or class problems in making shoe bags, laundry bags, shoe shelf made from an orange crate, hat box shoe tree and	a. Shoe trees b. Racks, bags, or shelves 4. Underwear and accessories a. Shallow and deep drawers b. Shelves c. Boxes C. Care of clothes 1. Night clothes in day time	

	hangers to match, and dress protectors. Some of the girls may take work of improving closet at home.	2. Day clothes at night a. Hanging b. Airing garments 3. Washing hose 4. Care of soiled clothes	

Selection and Making of the Laboratory Uniform

(Twenty-eight to thirty lessons)

Aims

1. Ability to select a suitable uniform for laboratory work
2. Ability to select suitable materials for laboratory uniform
3. Ability to make a laboratory uniform and do simple machine stitching

Standards for dress protection

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Judgment in choosing a suitable design Ability to choose suitable material	Each member of the class may bring an apron from home. The teacher should also have a collection of desirable types. Members of the class may try them on, set up standards and choose most desirable design. After selecting the pattern for the aprons, discuss the kind of material to buy.	I. Laboratory aprons A. Standards 1. Difficulty in making 2. Suited to purpose 3. Ease in laundering 4. Attractive 5. Comfortable to wear 6. Individuality in trimming B. Selection of material 1. Cost	A Girl's Problems in Home Economics, 1931—Trilling, Williams and Reeves Junior Food and Clothing—Kinyon and Hopkins Elementary Home Economics, 1931—Matthews

Standards for dress protection—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Last year, some of the girls chose kindergarten designs and, now that they are in the eighth grade, they do not like to wear them. What suggestions does this give in selecting materials?	2. Laundering qualities 3. Color 4. Suitable print 5. Color combinations for trimming	

Selection and use of sewing equipment

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of equipment needed for sewing	Before the girls can make their aprons, they must know the tools they will need and how to use these tools. Have girls bring equipment and take time to mark it.	I. Tools for construction A. Needles 1. Kinds 2. Sizes B. Thimbles 1. Use 2. Purpose C. Scissors 1. Size in relation to good cutting 2. Care 3. How to hold D. Tape measure 1. Kinds 2. Uses	
Some ability to use sewing equipment	Teach use of the thimble by practicing holding needle and thimble and piercing paper to rhythmic count.		

	It will be necessary for the girls to supply themselves with towels for use in the laboratory. What kind of material shall they choose? Have them list the steps that they will have to follow in hemming their towels. When the hems are basted, the girls will want to stitch them on the machines. What must they be able to do to stitch evenly? Have girls practice stitching on ruled paper. How will they thread the machine so that it will sew? If the hems are to be neatly done at both ends, how should the material be placed under the needle and how should it be removed when the hem is stitched? The girls will be ready soon to start on their aprons. How will they take their measurements so that they can estimate the amount of material needed?	E. Thread 1. Kinds 2. Sizes II. Posture when working A. How to hold work B. How to sit C. Effects of bad posture III. Learning to use the machine A. Parts 1. Names, location, use B. Preparation for sewing 1. Placing belt 2. Threading bobbin 3. Threading needle 4. Placing material for stitching and removal of material C. Position at machine D. How to treadle evenly	

Construction of the laboratory uniform

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to cut out the uniform	From several patterns, in different sizes, in the design decided upon, have each girl choose the one nearest her own size and test the length according to her measurements.	I. Measurements A. Measurements needed B. How to take C. Estimate of material from measurements	
	Demonstrate folding of material, placing and pinning of pattern.	II. Pattern A. How to test with measurements B. How to make pattern larger or smaller	
	Demonstrate cutting.	III. Cutting the garment A. Folding material B. Placing and pinning pattern C. Position of material while cutting D. Stroke of scissors	
Ability to make the garment	If the holder or head band is made first, this insures more practice before making the apron.		
	Cut edges stretch easily, so the pieces are pinned together before basting the seams. What is the best way to place the pins?	IV. Basting A. Position of pins B. How to hold material C. How to baste	
	There are several kinds of seams, each suited to a different purpose. Let the	V. Seams A. French B. Plain C. Fell D. Bound	

	class decide what seams are best suited for the shoulder.		
	There are the neck and the outside edges of the apron to be finished. If the raw edge is on the straight of the goods, it is usually hemmed but if it is on the bias, it is usually bound with bias binding or facing. Which finish is best suited to the style of apron that the members of the class are making?	VI. Other finishes A. Bias binding or facing. How to cut and join. B. Hems 1. How to hold material for hemming 2. How to crease VII. Possible points for score A. Neckline 1. Not stretched 2. Bias even B. Stitching 1. Straight 2. On edge C. Pockets 1. Size in good proportion 2. Straight and conveniently placed D. Bastings out and threads tied E. Garment pressed and clean F. Appropriateness 1. Pattern 2. Material 3. Bias	
Ability to judge the finished garment	Pockets are necessary in laboratory aprons and there is a great variety of shapes from which to choose. Let the class plan a pocket that is appropriate to the shape of the neck finish and that will not only be serviceable, but act as a decorative feature as well.		
	Demonstrate good pressing.		
	Make out a score card through class discussion. Grade finished products.		
	Put aprons on for class discussion.		

Health Habits and Breakfast for the School Girl

(Twenty-eight to thirty-two lessons)

Aims

1. An understanding of the fundamental health habits
2. To gain a knowledge and appreciation of sanitary habits in handling food
3. Some ability in planning, preparing, and serving a simple breakfast

Health habits

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An appreciation of the value of health	In hygiene class the girls have talked about good health and its importance. Let them review the reasons why health is valuable and list the points which indicate that a person has good health.	I. Health A. Importance 1. Ability to work and study 2. Ability to play 3. Ability to live happily with others B. Characteristics 1. Average weight for age and height 2. Abundance of energy 3. Good resistance to colds or disease 4. Condition of teeth, skin, eyes, hair C. Practices for good health 1. Proper food 2. Care in handling food 3. Fresh air and sunshine 4. Exercise and posture 5. Sleep	Elementary Home Economics—Matthews A Girl's Problems in Home Economics—Trilling, Williams and Reeves Food Facts for Everyday—Winchell Junior Food and Clothing—Kinyon and Hopkins Food: Its Planning and Preparation—Wellman
An understanding of health habits that should be practiced	What are the health habits that girls must practice if they expect to have good health?		
	Some of the girls help to prepare breakfast at home, and some do it alone. What must they know if they are to prepare a meal that will help keep them in good health?		

	What food groups meet body needs?	D. Food needs of the body 1. Fuel 2. Building and growth 3. Body regulation 4. Protection	

Breakfast in the health program

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the importance of breakfast	One of the girls says that her mother will not allow her to come to school without eating breakfast. Why should a girl eat breakfast, and is it necessary that she eat as heavy a meal as her parents?	I. Breakfast A. Importance 1. Longest time since last meal 2. Prepares the body for the day's work B. Factors governing choice of food 1. Age 2. Type of work 3. Climate	
	Some foods are more appropriate to one meal than to another. List the foods that can be used in planning a healthful breakfast.	C. Types of breakfasts 1. Very light 2. Light 3. Medium 4. Heavy	
	Plan breakfasts that would be suitable for junior high school girls.	D. Foods used for breakfast 1. Fruits 2. Beverages 3. Cereals 4. Bread 5. Eggs or meat	

Breakfast in the health program—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of desirable laboratory practices	If one member of the family has a cold it is not uncommon for others to get it too. What health habits should be practiced in the handling of food, both at home and in the laboratory, to guard against contagion from cold?	E. Careful handling of food 1. Clean hands 2. Care in use of handkerchief 3. Avoid touching hair and mouth 4. Handle food as little as possible 5. Individual tasting spoon 6. Clean dishes and tables 7. Washing of most foods before preparation	
	Have demonstrations of correct measuring.	F. Abbreviations tsp.—teaspoon T.—tablespoon C.—cup	
	List abbreviations and work out equivalent measures.	G. Equivalents 2 C—1 pint, etc. 16 T—1 cup 3 tsp—1 T	
	Demonstrate the use of the utility tray, spatula, etc.		
Ability to prepare fruit for breakfast	It was decided that fruit was desirable for most breakfast menus. Why should fruit be used and what should one know so that one can prepare fresh fruits for breakfasts?	H. Fruits 1. Use in breakfast a. Stimulate appetite b. A body regulator 2. Value of fruits a. Give bulk b. Contain acids c. Supply vitamins and minerals	
	Fresh fruits are sometimes		

	too expensive to use. What may be substituted for them?	Kinds of fruit a. Fresh Varieties available b. Dried	
	Prepare uncooked fresh fruits in season, and serve some cooked. Prepare and serve dried fruits.	4. Preparation of fruits	
	Preparation of fruit leaves a good deal of refuse. What precautions must be taken in caring for garbage so that the laboratory will be kept healthful?	II. Care of garbage A. Care of can B. Disposal	
	In the discussion of desirable laboratory habits for safe handling of foods, it was decided that dishes must be clean. What must be kept in mind in order to wash dishes easily but well?	III. Dishwashing A. Scraping of dishes B. Equipment to use C. Method to follow D. Care of towels and sink E. Health necessity of using hot water	
Appreciation of value of milk in diet	Milk is recognized as one of the best foods. How can it be used in cocoa so that there will be variety in meals?	IV. Milk A. Importance in diet B. Care of milk C. Uses in the breakfast 1. Beverages 2. Cereals cooked in milk 3. On cereals D. Preparation of cocoa or chocolate	
	Why should a milk bottle be washed before it is opened?		

Breakfast in the health program—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	If a member of the class finds it difficult to drink a quart of milk in a day, in what other ways could she use it in the breakfast?		
	Why are tea and coffee harmful to children?	V. Disadvantages of tea and coffee A. Are too stimulating B. Retard growth C. Take place of more healthful food	
Ability to prepare and serve a very simple meal	Prepare a very simple breakfast of toast and a beverage.		
	What must the class know before they start to prepare this meal?	VI. Kinds of toast A. Dry toast B. Milk toast C. French toast 1. Preparation	
	This meal may be served at the desks but an opportunity should be given for choosing the right dishes and silver and arranging them nicely for each cover.	VII. Attractive table service A. Makes meal more enjoyable B. Improves digestion	
Ability to prepare cereals	Growing and active girls need plenty of energy. Cereals are a good source of energy and are not very expensive. In what ways	VIII. Cereals A. Health value B. Economical C. Kinds available	

	may cereals be prepared to make them most tasty? Why should cereals be cooked for a long time? Do cooked or ready-to-serve cereals give more for the money?	1. Comparative cost a. Prepared b. Uncooked c. Partly cooked D. Preparation of uncooked 1. Plain In water or in milk 2. With dried fruit	
Understanding of the value of eggs in the diet	A heavy breakfast usually includes eggs. What do eggs supply that make them valuable in the diet? What are suitable ways in which to prepare eggs for breakfast?	IX. Eggs for breakfast A. Value in the diet 1. Body building protein 2. Growth promoting elements a. Vitamins b. Iron and Phosphorus 3. Fuel from fat in yolk B. Ways to serve 1. Soft and hard cooked 2. Scrambled 3. Poached 4. Omelet	
Ability to prepare and serve a family breakfast	Several of the foods served at breakfast have been prepared and standards set up for good products and successful work. Let the class plan the menu and assign the duties to each member in each group so that when they come to the next lesson they will be ready to start work. Work out a plan by which each group will score their meal. Have the class come in the morning, or serve the breakfast at noon, in place of lunch.	X. Serving breakfast A. Planning menu B. Time for preparation of food C. Standards for prepared foods D. Table setting E. Serving the family breakfast F. Cleaning up after the meal	

GRADE EIGHT

Preparation of Foods for the Home Luncheon

(Twenty-eight to thirty-two lessons)

Aims

1. An open-minded attitude toward eating all foods served at a meal
2. A desire to continue the practice of good health habits
3. Ability to plan, prepare, and serve a simple home luncheon

Foods for the home luncheon

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Some ability to choose foods suitable for lunch	Let the class list the types of foods that can be served for lunches. Lunches are of three kinds: light, medium, and heavy. Consider the foods that might be served in a light lunch. Prepare a light lunch, serving the meal at the desks. Choose the correct dishes and silver and serve the lunch neatly. If a heavier luncheon is being served at home, there are other foods that may be used. Most families have	I. Family luncheons A. Suitable foods 1. Beverages 2. Sandwiches 3. Vegetables 4. Cream soups 5. Salads 6. Hot breads 7. Hot dishes 8. Simple desserts B. Light lunch 1. Sandwiches and beverage 2. Toast and beverage 3. Salad and sandwiches C. Types of sandwiches 1. Dark or light bread 2. Meat, meat substitutes, vegetable or sweet fillings	A Girl's Problems in Home Economics: Clothing, Home, Food, Family—Trilling and Williams Problems in Food and Family—Reeves, Trilling and Williams Elementary Home Economics, 1931—Matthews Junior Food and Clothing—Kinyon and Hopkins Food: Its Planning and Preparation—Wellman

	a goodly number of vegetables in the garden. How might these be used in the luncheons?	D. Types of beverages 1. Milk 2. Fruit juices	
Understanding of the importance of vegetables in the diet	Vegetables are rich in vitamines. How may the loss of these substances be avoided in cooking? Potatoes, next to bread, are probably used more frequently in American homes than any other food. How should one select a good potato for baking? For boiling? What need of the body do potatoes fill?	E. Vegetables 1. Types a. Starch b. Green c. Canned d. Dried 2. Principles of cookery a. As little boiling water as possible b. Steaming when possible c. Short cooking d. Cooking strong flavored vegetables	
	Possible class activity: Prepare and judge baked potatoes. While potatoes are baking, consider the method to be used if one should want to serve a buttered or creamed vegetable such as carrots.	F. Preparation of vegetables. Temperature of the oven. Value of baking compared with other methods of cooking.	

Foods for the home luncheon—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to choose and prepare the type of white sauce suitable to use with vegetables	Making a white sauce introduces variety in serving vegetables and is another way in which to use milk. There are four kinds of white sauce. Learn how to make the variety that can be used with vegetables.	G. Cream sauce 1. Types 2. Uses 3. Proportions 4. Method of preparation	
Ability to use left-over vegetables in cream soups	There are frequently vegetables left over and they can be used for cream soups. Which white sauce should be used for this luncheon dish, and how shall it be combined with the vegetables? What may be served with the soup that will be a pleasing contrast in texture and add to the food value of the meal? Make a list of points to remember when eating soup.	H. Cream soup 1. Kinds a. Vegetable Starchy and succulent b. Fish 2. Value in a luncheon a. A hot milk dish b. Supplies minerals and vitamins c. Uses left-overs 3. Foods to serve with soup a. Crackers b. Croutons c. Bread sticks 4. Garnishes a. Chopped parsley b. Whipped cream c. Grated cheese d. Paprika	
Ability to choose and prepare suitable salads for luncheon	In the summertime, salad is frequently the main dish at lunch. At other times, salads are frequently com-	I. Salads 1. Value in the diet a. Rich in protective foods	

	bined with other dishes. Choose three salads that would be suitable to serve if one were starting the meal with cream of pea soup.	b. A way to serve raw food c. Appetizing d. Another way to use left-overs 2. Types a. Vegetable—raw and cooked b. Fruit—fresh and canned c. Fish, meat, gelatin, and cheese d. Combinations	
	List the points to remember when making salads.		
Understanding of the value of salads in the diet	Why are salads valuable to include in a menu?		
	Lettuce should be crisp and fresh. What should be done as soon as it comes from the market, so it will be ready at meal time?		
	Demonstrate making oil dressings, and the preparation of simple salads that might be used for special occasions, such as Hallowe'en.	J. Types of dressing 1. Cooked a. Modified cream sauce 2. Uncooked a. French b. Mayonnaise	
Ability to make a simple quick bread	Hot breads add variety to luncheon as well as to breakfast. Prepare muffins and serve them with a fruit salad. What should be the temperature of the oven?	K. Hot breads for luncheon 1. Types a. Muffins b. Baking powder biscuits c. Pop-overs 2. Methods of making 3. Temperatures for baking 4. Place in the diet	

Foods for the home luncheon—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Follow by a lesson on biscuits. How does the method of mixing biscuits differ from the method for muffins?	L. Serving a simple meal 1. Order of work 2. Dishes ready to serve at same time 3. Hot dishes hot 4. Cold dishes cold 5. Nicely served	
Ability to prepare dishes for a heavier lunch	When lunch is served to the family, father and the boys usually want something filling, so a main hot dish is served. What foods may be used in such dishes?	M. Hot luncheon dishes 1. Types a. Macaroni or rice and cheese b. Creamed meat on toast c. Meat and vegetable combinations d. Meat and fish loaves e. Egg dishes f. Cottage cheese 2. Value in menu a. May be a source of protein b. Furnish something hot c. Use left-overs	
Ability to choose and prepare simple desserts	Nearly everyone feels that a lunch is more pleasantly ended if there is some kind of dessert. Give the reasons for this and see if they are justified by health rules.		
	Some desserts are more suitable for lunch than for dinner. Make a list of those suitable to serve for lunch.	N. Luncheon desserts 1. Value in menu a. Source of energy, protein, etc., according to kind b. Give satisfaction	

Ability to prepare homemade candy	All of the class have been asking about making Christmas candies. Eggs are too expensive for making Divinity and there is only one hour in which to cook. What kind of candy is served more than any other? How many times does one find a standard piece of fudge? In considering health habits, what should be the place of candy in the diet? How might candy be used in the luncheon?	2. Types a. Custards and whips b. Gelatin c. Fruit d. Starchy (1) Cornstarch, rice, tapioca gingerbread, shortcake, cookies, etc. 3. Kinds that are cheaply and quickly made O. Standards for homemade candies 1. Place of candy in the diet	

Serving the home luncheon

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
The ability to plan, prepare, and serve a luncheon	A few weeks ago a very light luncheon was planned and served. Now plan a heavier luncheon which would be suitable to serve at home for the family. What things must be carefully planned for if the meal is to be ready to serve one hour after the preparation has been started?	I. Points to stress A. Meeting food needs of the family B. Good food combinations C. Management D. Table service E. Table manners F. Cleaning up after a meal G. Scoring by the class	

Care of Younger Brothers and Sisters

(Eight to twelve lessons)

Aims

To develop in the girls a knowledge of some of the fundamentals of child care, especially from the standpoint of training, through present contact with children

Interest in young children

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To secure direct contact for the girls with younger children as an interest approach	Have girls observe a kindergarten making out an observation sheet or Have girls give a party for a child of a faculty member.	I. Observation of children A. Individual differences in 1. Size 2. Clearness of speech 3. Ease of talking 4. Handling toys 5. Attentiveness 6. Response to questions B. What they play C. How they play 1. Alone 2. In groups D. Length of time children stay at one thing E. How they remember or learn things	

Care of children

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
The ability to act as mother's helper in the physical care of a baby brother or sister	Have mother bathe her baby at school or at home. Or—School nurse or teacher demonstrate on doll. Make an exhibit of the necessary articles for the care of a baby. Mary takes care of the Porter baby for pay. Last night, Mrs. Porter went out for dinner and did not return until 11:30. What were Mary's responsibilities?	I. Physical care of a baby A. Bathing 1. Need of cleanliness 2. Dressing 3. Need of regularity B. What the baby eats C. How to administer a bottle D. The use of pacifiers E. How to handle a child 1. Pick up 2. Carry 3. How to lift 4. When to handle 5. Importance of following directions because child is a. Helpless b. Delicate c. Susceptible	Modern Food Studies—Gillum Reference material for girls 1. Home Problems—Kinyon and Hopkins 2. Understood Betsey——Dorothy Canfield Fisher 3. Mothers and Children Dorothy Canfield Fisher 4. Training the Toddler —Cleveland 5. Care and Training of Children—Goodspeed and Johnson
Ability to act as mother's helper in the physical care of a pre-school child	Mary has a younger sister who is old enough to help herself, but does not know how to do so. Mary has to take all of the care of her. How could she help teach the young sister to take care of herself? Help a young child learn	II. Care of a pre-school child A. Directing self-help 1. Make it a pleasant task 2. Give enough assistance to prevent discouragement 3. Do not demand too great an undertaking 4. Make play of manipulating buttons 5. Tactful persuasion	References for teachers 1. Child Care and Training—Faegre and Anderson 2. Child Guidance—Blanton and Blanton 3. Parents and the Preschool Child—Blatz and Bott 4. The Normal Mind 5. The Modern Parent —Myers

	to dress, teaching him to stick to the job. Make small card board hangers, paint and decorate them.	6. Examples 7. Form habit of hanging up clothes a. Small hangers b. Low hooks c. Examples	
	Girls might fix the wash room for the kindergarten. Girls might make up nursery rhymes for cleanliness.	B. Need of cleanliness 1. Equipment for washing a. Have stool to stand on so child can reach b. Give child own towel and wash cloth 2. Teeth 3. Nose 4. Ears	
	Class might make posters to put up on Bulletin Board: a. What the young brother or sister should eat b. Foods they should not eat	C. Food of the young child 1. Foods the child should eat 2. Foods the child should not eat 3. Importance of imitation in food habits as well as in other habits	
		D. Help with daily habits	
		E. Importance of regularity	

Relation of the school girl to children

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the influence of helper's actions on a child	The student should realize that childhood is an impressionable age and that all older people have a responsibility in all experiences of young children.	I. Habits A. How habits are developed 1. Teach elementary habits B. Some habits to develop 1. Self-control	
To develop a desire for right mental habits and desirable traits in a child	The class should compile a list of personality traits which should be encouraged and developed in small children.	a. Value of example b. Avoidance of (1) Imitation (2) Over-excitement (3) Jealousy (4) Failure to rest (5) Teasing	
To form habits of kindness toward children	When Mary's younger sister could not go down town with her, she immediately went into a temper tantrum, kicking and screaming. Find the cause for this and plan a way out of the difficulty.	c. Self-control is one of the most valuable assets in later life 2. Independence or initiative 3. Courtesy	Does Your Child Have Temper Tantrums?—National Committee of Mental Hygiene
	Mary, age 3, always waits for someone to show her how to do things. How might she be helped to develop ideas of her own?		
	Ruth, her older sister by		

	one year, makes Mary feel her authority. Unconsciously Mary does exactly as Ruth says. Is this fair to Mary?		
	Martha wanted someone to tie her apron strings. She runs over to one of the girls saying, "Tie my apron". How could you get Martha to be more courteous in asking for favors?		
	Mary was telling a story to a group sitting in a circle on the floor. Tom, who was in the group, talked to those around him, and sometimes spoke out loud enough to interrupt. What would you have done with Tom?		
	Jerry is swinging and has a tricycle near by. Margaret comes along and gets on it. Jerry jerks the tricycle and throws her off. How can Jerry be taught not to be selfish?	4. Unselfishness	

Relation of the school girl to children—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Betty and her sister were playing in the living room when Betty broke a vase. Unknown to Betty, the girl who was taking care of them had seen her break the vase.	5. Truthfulness a. Know the difference between imagination and untruthfulness b. Question kindly c. Answer all questions truthfully	Truthfulness and Falsehood, 10 cents.—Child Study Association of America
	What should be done when Betty said her younger sister broke it?	6. Obedience or Respect for authority	Obedience—Child Study Association of America
	Anne was playing in a sand pile when her mother called and told her she had not put her blocks away. Anne continued to play and said she didn't care. What should be done and said to Anne?	7. Courage a. Danger of fear (1) Effect upon the nervous system (2) Cruelty of using fear as punishment (3) Fear teaches disobedience and lying (4) Fears of older people are communicated to children (5) Fear as a handicap to an older child	
	Mary was caring for the little girl next door. The child refused to do as Mary asked her to. Mary spanked the child and because she was crying so hard Mary put her in a dark closet. What should Mary have done?		Obedience—National Committee for Mental Hygiene Punishment, 10 cents.—Child Study Association of America

To help establish the right relationship between the girl and her younger brothers and sisters	Mary wants her younger sister to do something for her. The sister does not want to. Mary frightens the younger child into doing it by telling her a big, black bear will get her. How is Mary harming her sister? Girls cite examples of fear in older people, instilled when they were children.	II. Respect rights of a child A. Show the same consideration and courtesy that you expect B. See that child is not abused C. Question kindly without suspicion D. Do not make promises that cannot be kept E. Help child realize differences between reality and make-believe	
To develop the right attitude toward children and their rights	List the ways in which a younger or older sister should respect rights of children.	F. Put yourself in the child's place Mother is responsible for real habit development but girls aid or hinder by example	

Play materials

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
A desire to develop the ability to entertain small children	Mary is planning a party for her four-year-old sister. What games could they play?	I. Play A. Importance of play in a child's life	May Fair Play Things 9 E. 57th St., N. Y.
	Plan and supervise the play for the kindergarten or primary grades during recess.	B. Suitable games for children 1. Include all of group 2. Furnish motion 3. Are simple 4. Require some thought 5. Are not too long 6. Develop imagination 7. Develop fairness 8. Develop muscles	Best Toys for Children, 40 cents.—Leonard Playthings Bulletin No. 1—Bureau of Educational Experiments
		C. Play among children develops 1. Friendliness 2. Cooperation 3. Generosity	Catalogs a. Educational Play Things, Inc., 20 E. 69th St., N. Y.
	Make toys in class a. Paint spools and string as beads b. Dolls c. Make scrapbooks for children's homes d. Doll furniture	II. Play materials A. Toys 1. Characteristics a. Smooth and no points b. Durable c. Highly colored d. Fast colored e. Easily cleaned	b. Schoenhut Co., E. Hagert and Seporia, Philadelphia, Pa.
	Have girls bring toys from home and make a display		c. Holgate Co., Kane, Pa. (Jerry blocks)

	of toys for children of various ages.	f. Simple g. Not too small 2. Toys for different ages	
	Have girls bring pictures from home and have class decide whether or not they are good pictures for children.	B. Pictures 1. Requirements a. Colorful but artistic and rhythmic b. Should tell a story c. Simple d. Full of action e. Humorous 2. Undesirableness of comic supplements a. Crude b. Poor color c. Poor drawing d. Bad ideas e. Silly f. Suggestive 3. Correct hanging of pictures in a child's room	Best illustrators of children's books 1. Walter Crane 2. Leslie Brooks 3. Randolph Caldecott 4. Kate Greenway 5. Arthur Rockham 6. Hope Dunlap (Pied Piper) 7. Frank Adams (Old Dame Trot and Her Pigs) 8. Jessie Wilcox Smith (Good Housekeeping)
	Girls may select good books for children of various ages and display on Saturday in a store window. Girls might be left in charge to explain the exhibit. Foreign folk songs with foreign costume might be used in style show, depending on community.	C. Books 1. Within experience of child 2. Suitable to age and temperament 3. Free from wrong impressions, or too great excitement 4. Characterized by humor, action, and some conversation 5. First books Picture books which pertain to home life	Publishers of books for pre-school child 1. Amer. Library Association, 520 N. Michigan Ave., Chicago, 5 cents 2. Colorado Parent-Teachers Assn., Denver 3. Winifred Hanley Merrill (Palmer

Play materials—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Have girls tell stories to their own groups.	D. Stories 1. See qualifications for books 2. Characteristics of good story telling	School, Detroit, Mich.) 4. Child's First Book, 30 cents
	If mothers come for school programs, girls might care for younger children by telling them stories.	a. Use of simple language b. Use of suspense c. Modulated voice d. Use of gestures to give emphasis	5. Selected List of Books for Parents and Teachers, 25 cents—Child Study Association
	"What every child has a right to have" 1. Love and care 2. Education 3. Hygenic care 4. Exercise 5. Health and happiness 6. Good food		6. Book Lists Journal of American Assn. of University Women, Washington, D. C. a. Story Telling to Little Ones—Sarah C. Bryant b. How to Tell Stories to Children—Sarah Bryant c. The Story Teller—Bailey, $1.50 Milton Bradley Co., Springfield, Mass. An Intelligence Test for Big Sisters—Bess Cummings

Selection and Construction of a Simple Cotton Dress

(Twenty-eight to thirty-two lessons)

Aims

1. Ability to recognize and select materials most suitable for a cotton dress
2. Ability to choose a pattern suitable to the garment
3. An understanding of the construction processes needed in a simple cotton dress
4. Some appreciation of the place of accessories in good appearance

Relation of clothing to health and good appearance

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An appreciation of the relation of clothing to health and personal appearance	What are the different types of occasions for which dresses must be selected? School dresses are worn more than any others. What are the characteristics that make them suitable?	I. Clothing A. Relation to health 1. Adaptability to climate and season 2. Laundering qualities 3. Provision for freedom of movement 4. Allowance for growth	A Girls' Problems in Home Economics——Trilling, Williams, Reeves Junior Food and Clothing—Kinyon and Hopkins Elementary Home Economics, 1931—Matthews
An appreciation of what it means to be well dressed and a desire to meet this standard	Since everyone likes to be well dressed, what points must be considered in choosing suitable clothing? Study the girls in the class. Make a list of several general types of figures and	B. Relation of suitable and becoming clothing to personal appearance 1. Cost 2. Color a. Season b. Occasion c. Fastness of color d. Fashion 3. Style a. Fashion	

Relation of clothing to health and good appearance—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	make a list showing the things they should consider in choosing becoming designs. Let each girl bring illustrations of costumes to class which she thinks suited to her and have her list occasions for which she will wear them.	b. Figure c. Personality 4. Material 5. Accessories suitable for the dress	

Garment selection and construction

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Some ability to select material for a cotton dress	Several of the season's new garments have been loaned to the class by local stores. Decide on the type of dress, considering style color and material, which is suitable for each type of individual.	I. Variety of patterns A. Homemade patterns B. Commercial kinds 1. Selection of material suited to design, occasion, season and popular market 2. Color suitable to person, occasion; and laundering qualities 3. Quality or cost 4. Amount needed	Kinyon and Hopkins —p. 62 Trilling and Williams —p. 124 Matthews—p. 574 Clothing Construction —Brown, pp. 133, 134 to 141
	Study colors most becoming to different members of the class, using pieces of colored material.		Singer Manuals and Charts
	Let each member of the class bring a sample of the material she considers as most suitable in all ways. Determine the amount of material needed for the garment.	II. Construction processes involved A. Studying pattern, testing, alteration, marking B. Placing: economically, properly; pinning, marking, cutting C. Construction Pinning, basting, fitting, stitching, finishing seams, facings, bindings, finishings, bias, cutting and joining, pockets, belts, hems, decorations	Matthews, p. 59
Some understanding of the construction of the garment	Mary and Jane are going to use the same pattern for their garment but Mary is the larger of the two girls. How can they both use the pattern which fits Mary?		

Garment selection and construction—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Showing seams of different degrees of perfection by which the girls may evaluate their work.		
To judge the becomingness and suitability of the garment	Make a score card by which to judge the becomingness, suitability, workmanship, etc., of the dress.	III. Score card for A. Workmanship B. Becomingness C. Suitability D. Cost	
	How much will one have to pay to buy a readymade dress of equal quality?		

Care of hose

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to repair stockings	The class decides that if they are to be becomingly dressed they need to consider all parts of the costume. One part that is very noticeable is the condition of the stockings. Have girls bring hose that need mending and learn how to make them look presentable to wear to school.	I. Care of hose A. Daily washing B. Mending small holes or runs at once C. Darning	

GRADE NINE

Social Customs and Courtesies

(One to two weeks)

Aims

1. To show that good manners originate from
   a. A respect for one's self
   b. A respect for others
2. To realize that courtesy makes living more pleasant for ourselves and for others
3. To become familiar with the more common social customs through practicing them
4. To acquire ease and judgment in meeting unusual situations
5. To realize that true hospitality means giving the best one has without apologies
6. To appreciate the privileges and responsibilities of a hostess and of a guest

Courtesy

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
A knowledge of how to respect others	"True courtesy is simply the expression of a kindly motive and it is upon such consideration for the rights of others, that society is based. In addition to this necessary thoughtfulness, there is the knowledge of nice points of etiquette, of what we call good form."	I. Origin of social customs A. Early people had to learn self-respect and respect for others before they could live happily together B. Handshaking originated as a sign of friendship C. Dancing originated when man was happy, as an expression of his happiness D. Respect for elders because they are older and wiser	The New Book of Etiquette—Eichler On Being a Girl—Gibson
An understanding that success is living and doing things in the right way	Make a list of the things that members of this class may do to show respect for others.		

Social customs—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to give and acknowledge introductions correctly	Life is a game, similar to the games played by children. These games have directions and rules and life, too, has its rules. Bring all the rules that would apply if the class were to engage in a game of "Introductions".	II. Everyday social customs A. Introductions 1. Correct greetings 2. Presenting younger people to older people 3. Introducing less distinguished people to more distinguished 4. Introducing a man to a woman 5. Presenting late comers	Everyday Manners —Macmillan Fibre and Finish —Dodd
Some ease in adjusting one's self to uncomfortable situations	Helen is giving a week-end party and one of her guests is from another state. This girl does not know any of the guests, neither does she know Helen's mother. Plan a scene in which this guest may be introduced to everybody. One boy arrives late. See that he is made to feel at ease.	6. Acknowledgment of introductions a. What to do and say 7. Introducing self B. Calling and cards 1. Chiefly used for messages of condolence and congratulations C. Invitations 1. Formal a. When used b. How written	Everyday Foods—Harris and Lacy
Some ability to write invitations, acceptances, and regrets	Plan a class party in the form of a luncheon for mothers. Write suitable invitations.	D. Acceptances E. Regrets	Meal Planning and Table Service—Bailey

Social customs—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To learn to be at ease at the table at home, or in public	"Eat at your table as you would at the table of a king." Jim was very ill at ease when he arrived at a dinner party because he didn't know from which side of his chair to sit down, how to unfold his napkin, or what silver to use. What rules should be followed so others will not be embarrassed if placed in a like situation? Let the class suppose they are giving a luncheon and each one is to sit at the table. Practice sitting down, unfolding the napkin, using silver, and correct eating habits.	F. Table etiquette 1. Posture 2. Use of utensils 3. Eating habits 4. Rising from the table 5. Taking leave after a dinner engagement	

The hostess and the guest

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the responsibilities of a hostess	Part of the fun of being young is being able to give and attend parties. In doing these things a person is sometimes the hostess and other times the guest. Develop an understanding of the responsibilities of a successful hostess. Mary spent a week-end with Hazel. There were many guests present and dancing was the main form of entertainment. Mary was timid and did not dance well. When she returned home and was asked if she had a good time her answer was non-committal. The next week-end Mary spent away from home she had a very good time. What were the differences in the two hostesses?	I. Factors which make for a successful hostess A. A knowledge of how to put guests at ease B. Care and treatment of overnight guests C. Consideration for every guest D. Courtesy to each guest	Speech Arts—Craig Everyday Manners—Macmillan

The hostess and the guest—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the responsibilities of a guest	Virginia spent the week-end with June. When she had gone home, June's mother remarked that she was all worn out from so much extra work. Much of this was due to Virginia's carelessness. In what ways did Virginia fail as a guest?	II. Responsibilities of a guest A. Courtesies due the hostess 1. Time of calling 2. Length of visit 3. Expressing pleasure and appreciation for courtesies shown 4. Adjusting one's self to the plans of the hostess 5. Conforming to household routine 6. "Bread and Butter" letter	
To understand that courtesy is necessary at all times	The Junior girls have invited the Senior girls to a farewell luncheon. List the things which each guest will have to do to make this party a success. After a visit, a guest writes a note to her hostess to express her appreciation of the courtesies shown her. Let the class write such a note after one of the group has enjoyed a holiday at a chum's home.		

The hostess and the guest—(continued)

	No one likes to be known as a boor, and the older people grow the more at ease they like to feel at all times. It is quite true that the things learned at home are the ones which will be apparent when people are away from home. Let the class try to formulate a list of the customs and courtesies learned at home (in addition to those already studied) which will make living out in the world more pleasant.	III. Courtesy in everyday life A. Courtesy to family 1. Respect and love of parents 2. Interest in and tolerance of younger children 3. Sharing of work and play	

Manners in public places

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the meaning of "The voice with a smile wins"	Write a list of telephone don'ts. A group of young people are in the living room and Mary's mother enters. What should Mary do?	I. Conduct outside the home A. Telephoning 1. Courtesy to "Central" 2. Do not use telephone when not necessary B. Courtesy to older people 1. When they enter room 2. Conversation 3. Helpful, thoughtful attention	Speech Arts—Craig
Realization that manners in public places and observance of rights of others are a part of true courtesy	Ann is going to visit her aunt and is traveling on the train, by herself for the first time. She will be on the train overnight. Plan how she will buy her ticket, check her baggage, order meals, go to bed, etc. Ann may receive an invitation to go to a dance. What will determine her acceptance or rejection and how may either be done courteously? Ann will no doubt meet many new acquaintances. What will determine her conversation with one she does not know very well?	C. Conduct in public places 1. When traveling a. In buying a ticket b. In diner c. Asking to share seat d. Caring for baggage e. Care of money f. Securing reliable information 2. On street 3. In stores a. Courtesy to salespeople 4. In public gatherings 5. In restaurants or ice cream parlors 6. "Blind dates" 7. Arts of conversation a. Good listener	

	Groups of high school students are in the habit of visiting an ice cream parlor after the show and annoying the waitresses by the pranks they indulge in. One waitress lost her position because of this. Determine the responsibilities that students have in such places.		
A standard for conduct and manners at school and during school activities	Make a list of courtesies that students should show teachers. Consider the problem of a new student at school and the ways in which the members of the class may help her become adjusted. At a basketball game some of the spectators stood up while others singled out individual players for abusive remarks. Did this show a sportsmanlike attitude? Outline conduct that a high school student should observe at a game.	D. Conduct and manners at school 1. In assembly and corridor a. Orderliness b. Quietness 2. Toward fellow students 3. At games E. School parties 1. Sponsor 2. Chaperon a. Courtesy	Manners and Conduct in School and Out—Deans of Girls in Chicago High Schools

Manners in public places—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	A high school teacher was heard to remark that she refused to chaperon another high school party. In what ways had the high school students probably failed in their duty?		

Manners of boys and girls

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Frank discussion of good manners between boys and girls	High school girls enjoy their boy friends, as well as girl friends. What particular customs and courtesies should be observed in association with them? A boy asked a girl for a dance and she, knowing he was a poor dancer, refused. In a minute someone else asked her for the dance and she accepted. What should she have done in this case?	I. Conduct of boys and girls A. Courtesy to all girls at all times B. In classroom C. On the street D. At parties and public gatherings E. Keeping appointments F. Calling at girl's home	

Meal Planning and Health

(Thirteen to sixteen weeks)

Aims

1. To develop habits of cleanliness and orderliness
2. To develop an understanding of the importance of good food habits in healthful living
3. To develop the ability to help in planning, preparing, and serving well-balanced and attractive breakfasts and luncheons
4. To develop an interest in helping to buy food economically
5. To develop the ability to help care for food in the home
6. To develop some ability to plan meals for special occasions

Care of the laboratory (2-4 lessons)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An individual interest in making the laboratory an attractive and convenient workroom	Since the laboratory is to be the homemaking room for the year, it should be as attractive and convenient as possible. The students should press and hang the curtains, decide upon arrangement of furniture, and make the place as attractive as possible. This is an opportunity to develop management.	I. Factors in making a room homelike A. Well arranged furniture B. Cleanliness C. Use of curtains D. Notes of interest 1. Plants 2. Good posters	Everyday Foods—Harris and Lacey Foods and Homemaking—Greer The House and Its Care—Matthews Convenient Kitchens—F. B. 1513 U.S.D.A.

Care of the laboratory—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the importance of cleanliness in the laboratory	Some kind of protection for dresses is necessary in the laboratory. Let the class plan the type of uniform which will suit their needs and decide whether they shall buy it or make it at home.	II. Factors in choice of uniform A. Sufficient protection to school dress B. Colors vs. white C. Materials best suited D. Cost of readymade against made-at-home garment	Plant and Equipment for Vocational Classes in Home Economics—Bulletin 124, Federal Bd. for Vocational Ed. Planning and Equipping Home Economics Rooms—Bulletin No. 4, Kansas State College A collection of aprons and smocks of different types and materials
Ability to make a plan for neat, orderly work A sense of cooperative responsibility in caring for the laboratory	The laboratory will be used several days during the week and when there are a number of students working together in it, definite plans will have to be worked out by the group to keep it neat and clean. How shall the work be organized so that it will be most easily and quietly done?	III. Make a plan for work A. Daily duties B. Weekly duties C. Inventory IV. Care of the laboratory A. Definite place for all equipment B. Care of all equipment C. Proper use of equipment D. Working schedule to save steps E. Plan by which general work of laboratory will be done F. Filing reference material G. Care of the bulletin board	

The breakfast (18-25 lessons)

If the members of the freshman class have had junior high school work, or are in the habit of helping with meal preparation at home, the value of the individual class preparation of foods commonly served in the breakfast is to be seriously questioned. Planning, preparing and serving even the simplest menus of two or three foods present the challenging problems of food selection, and management of time, and take into account the student's present knowledge and ability. This work makes possible the development of new methods and good standards, and gives experience which small-scale laboratory work does not provide. When the group feels the need of a practice lesson it should be introduced in the form of the usual laboratory lesson.

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the fact that a good health program is continuous	Make a list of the items that should be considered in each student's health chart. Include regular scoring of the health habits and keeping of weight charts.	I. The body needs food for A. Energy B. Building C. Regulating	Healthful Living —Williams Foods texts Nutrition Handbook No. 6—Montana Extension Service
Some appreciation of the food habits necessary for health	"A few days ago I was visiting at a home and this is what the high school daughter ate for breakfast: oatmeal, ham, eggs, white bread and coffee. Criticise this meal by the standards set up in our health score."	II. Good food habits A. Three meals a day B. Regular meals C. Proper selection D. Thorough mastication E. Proper attitude toward meals	Height and Weight Charts

The breakfast—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the place of breakfast in a day's diet	Many high school girls do not like to eat breakfast, and frequently go without. Will this matter if they eat a hearty lunch?	III. The breakfast A. Types of breakfasts B. Factors affecting type of breakfast to serve 1. Age 2. Size 3. Occupation 4. Season of year C. Importance of breakfast	The Most Important Meal in the Day—Food Facts, March, 1928 Dietetics for High School—Willard and Gillett
Ability to plan a well-balanced breakfast Ability to prepare foods suitable for breakfast	What types of food may be included in a breakfast for students, and for others who do not do heavy work? Breakfast is a meal that has to be prepared quickly. This needs to be considered when choosing menus and planning work. Since fruit, toast, and milk, in some form, are desirable, plan a menu to include these three kinds of food. Use fresh fruit, and show how to prepare it attractively.	IV. Foods most commonly included in breakfast A. Fruits B. Cereals C. Beverages 1. Milk 2. Cocoa 3. Coffee D. Bread stuffs 1. Toast 2. Muffins 3. Griddle cakes 4. Waffles E. Bacon, eggs	Feeding the Family—Rose Citrous Fruit Bulletins Milk and Its Uses in the Home—F.B. No. 1359 Milk, the Growth Food for Health—Extension Circular No. 277, S. Dak. State College, Brookings, S. Dak.
	Plan and prepare other menus that include different foods.		Eggs, and Their Uses as Foods—F.B. No. 128

Ability to judge quality of products prepared	Develop standards for evaluating the different types of foods prepared in the different menus. Have each group prepare a menu that shows variation of the food that is receiving particular emphasis in that lesson (such as fruit, or eggs, or beverage, etc.).	V. Points of emphasis for each food studied A. Suitable ways to prepare B. Nutritional value C. Standards of good products D. Cost in terms of food value E. Time required to prepare	Food Buying and Our Markets—Monroe and Stratton Food Purchasing for the Home—Blinks and Moore
	Some of the groups may have suggested oranges as the fruit for nearly every menu. Consider other fruits that are seasonable have good food value, and are less expensive.	VI. Preparation of a meal A. Analysis of jobs B. Schedule of work	
To develop a technique for preparing a new dish	Several varieties of hot breads may be served for breakfast, but many in the class will never have prepared them and will need some individual laboratory practice work before preparing them in larger amounts in a breakfast menu. Emphasize precautions that must be taken in measuring ingredients.	VII. Quick breads A. Pour batters B. Drop batters C. Soft doughs 1. Proportions of essential ingredients D. Temperature tests	Baking Flour Mixtures at High Altitudes—Peterson, Colo. Exp. Sta. Modern Food Studies—Gillum

The breakfast—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Some of the second-year girls talk about the "batter series" and say that they can make the quick breads without a recipe. What shall a freshman class have to know to be able to do this, too? What should be considered in determining whether one has good quick breads?		
Ability to set the table and serve breakfast to the family	"We have been serving our meals at our desks to save time, but we want to practice serving as we should to the family at home. What dishes and silver shall we need to use to do it simple but nicely?"	VIII. Table setting A. Laying a cover B. Importance of attractiveness C. Types of easily cleaned table coverings (Question setting up standard of necessity of napkins where all laundering is done at home)	Table Service for Busy Families—Rust and Pittman, State Bd. for Voc. Ed., Topeka, Kansas Meal Planning and Table Service—Bailey Table Service and Decoration—Gunn
	Serve a breakfast in the morning or at noon, inviting a guest if it seems advisable, and practice the social customs considered in the Social Customs and Courtesies Unit.		

Appreciation of the importance of pleasant surroundings for most enjoyable meals	How can the room in which we eat be made attractive and comfortable so that mealtime may be a pleasant occasion for our families?		

Luncheon or supper (25-35 lessons)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Understanding of characteristics of good luncheon menus	The convenience to the family determines whether the meal next heavier than breakfast is at noon or at night. List the foods the members of the class have eaten for this meal for the past two days and from the list work out the types and combinations of food that would be suitable to include in plans for other days.	I. Guides for menu planning A. Only one protein dish in each meal B. Enough starch, fat, and protein to meet energy requirements C. Foods rich in minerals D. Foods rich in vitamins E. Water F. Texture combinations G. Seasonableness H. Cost in relation to food value	A Guide to Good Meals for the Junior Homemaker—Circular 49, U.S.D.A. Scientific Meal Planning Chart—Best Foods Home Economics Service, 297 Fourth Avenue, New York A Plan for the Day's Choice of Food—Postum Co.
Some ability to judge the adequacy of a menu for specific groups of people	Select luncheons for a limited sum from hotel and restaurant menu cards. Make substitutions to improve food value to lessen	II. Daily food guide A. One quart milk for growing students B. One raw fruit or vegetable C. Two vegetables besides potato D. One whole cereal	Dietetics for High Schools, Revised—Willard and Gillett

Luncheon or supper—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	cost, or to provide for a dish that might be more easily prepared if one were cooking the meal at home.	E. One serving of meat, eggs or cheese F. Six or eight glasses of water	
An appreciation of the differences in food needs of small children and older members of the family	There are a number of foods on the supply table. Plan and prepare a simple luncheon that would supplement the breakfast eaten in the morning. What changes would need to be made in the menu so that it would be suitable for a three-year old child?		
Ability to prepare luncheon dishes suitable for family needs	Vegetable dishes frequently make the main dish of a luncheon. List all of the different ways in which they might be prepared to introduce variety into meals.	III. Meeting individual differences A. Provision for growth B. Difference in occupation C. Difference in size D. Personal idiosyncrasies	Hows and Whys of Cooking—Halliday and Noble Learning Exercises in Food and Nutrition——Robertson and King
	The demonstrator said, “Many people pour most of their vegetable nutrients down the sink”. What methods of preparation would avoid this loss?	IV. Common luncheon foods A. Vegetables B. Cream soups C. Salads D. Meat substitutes and extenders E. Luncheon breads	

	Recipes in old books say to add soda to tomato soup, but the newer books omit this ingredient. How can this difference be accounted for?	F. Simple desserts G. Beverages H. One-dish meals	
	A very effective way in which to reduce the time required for preparation of a luncheon is the use of the one-dish meal. Consider recipes practicable to use.	V. Vegetable cookery A. Short cooking period B. Small amount of water C. Cooking in jacket	
Some ability to judge the quality of a product	Prepare vegetable-plate meals.	VI. Ways to serve vegetables raw	
	Left-over vegetables and other foods are always a problem. See how many good soup recipes can be worked out for utilizing these left-overs.	VII. Points of emphasis for each group studied A. Food value B. Combination with other food C. Cost in relation to nutritive value D. Care E. Principles of preparation F. Ways to serve	
Judgment as to time needed for the preparation of different dishes	Prepare typical foods used in luncheon menus, preferably combining two or three foods into a simple menu so that each group has constant practice in planning and managing its time.		

Luncheon or supper—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the cost of foods	Compare dishes in cost and in nutritive value, emphasizing practical substitutes. Emphasize attractive serving of the simplest foods. Ways to garnish or make them more appealing.	VIII. Expenditure for food A. In relation to income B. Distribution of food-dollar 1/5 for vegetables 1/5 for milk and cheese 1/5 for meats, fish, eggs 1/5 for cereal foods 1/5 for fats, sugar and other groceries	Food texts Food Buying and Our Markets—Monroe and Stratton Food Buying and Our Markets—Blinks and Moore
Development of managerial ability in the preparation and serving of family luncheons or suppers	Several members of the class may want to take meal planning and service as their next home project. Let them make complete plans for a luncheon which they will serve, checking all points just as they should at home, so that they are sure the cost will come within their budget, meet the needs of the group to whom the meal is to be served, and be ready on time.	IX. Factors in meal planning and serving A. Menu to meet needs of family B. Menu limited in cost C. Estimate of supplies needed D. Purchase list made out E. Preparation in a limited time F. Dovetailing of preparation processes	

Familiarity with types of service suitable for luncheons	Serve breakfast in "Family Style" so that it may be served as quickly and easily as possible. In what ways may family or guest luncheons be served?	X. Service of luncheons A. Family style B. Compromise style C. Analysis of jobs D. Setting of table E. Emphasis on simple service with true hospitality	Family Table Service—Niles, University of Minnesota See references in breakfast unit

Marketing for food (to be interspersed with other work)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Some knowledge of the principles involved in making of a food budget	Students might plan the family meals for a week and see if it were possible to buy the supplies within a stated allowance. What should be considered in spending the money set aside for food?	I. Relationship between cost and food value A. Use of foods in season B. Advantages of knowing brands in packaged and canned goods C. Bargain buying D. Use of cheaper cuts of meats E. Necessity of knowing contribution of each food so that substitutions may be made	A Short Unit Course in Marketing—65 cents, State Board for Vocational Education Madison, Wisconsin A Week's Food for an Average Family, F. B. 1928
Knowledge of the factors which influence the cost of foods	Foods may be charged and delivered, purchased for cash and delivered, or bought for cash and carried. Analyze the three situations to determine the prices charged in the community.	F. Contributions from 1. Garden 2. Home canning 3. Poultry 4. A cow	Exhibit of Canned Goods

Marketing for food—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the importance of pure food	How are consumers protected by State and Federal food laws?		Food Products—Sherman Cost of Food—Ellen H. Richards
	Estimate cost of operating auto for food delivery. Follow some food from producer to consumer, taking note of costs involved in each transfer.	Figure losses from bad credit accounts	What Is What in Groceries—Todoroff
Care of food (to be interspersed with other lessons)			
Some ability to care for food in the home	Other ways of reducing the cost of foods are to prevent spoilage after delivery from market and in keeping of left-overs. What precautions should be taken to prevent meat from spoiling?	I. Care of food in the home A. Foods that need special attention 1. Milk 2. Meat 3. Vegetables 4. Fresh fruits 5. Bread and cake	Housewifery—Balderston Pamphlets from National Ass'n of Ice Industries, 163 W. Washington St., Chicago, Ill.
	How shall milk be cared for?	B. Temporary care by means of 1. Refrigeration 2. Cellar 3. Window box	Farmers Bulletins No. 896—House Rats and Mice No. 658—Cockroaches No. 679—House Flies
	If the weather is warm and ice not available, suggest other cooling devices which may be used to keep food.	C. Storing of staples 1. Protection from dirt 2. Protection from pests	First Lessons in the Care of Milk, Bulletin 26, Iowa State College

The school or picnic lunch (5-8 lessons)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to prepare supplementary lunch dishes	Some students bring sandwiches for their school lunch and during the cold weather need something warm to supplement them. Plan ten hot dishes which might be prepared at school and that would mean better nutrition for these students.	I. The kinds of lunch A. Cold B. Supplementary C. Cafeteria II. Types of food A. Sandwiches B. Hot dishes C. Fruits and sweets III. Packing equipment	School lunches—F.B. 712 The School Lunch—General Foods Corporation Bulletin School Lunches Manual No. 10—Proctor and Gamble
Ability to plan and pack a box lunch	Make out orders for supplies. Prepare and pack a box lunch that could be carried on an all-day hike.		

Food for special occasions (4-6 lessons)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the principles of sugar cookery	What is the best procedure to follow in making a hard candy, such as peanut brittle? How should the method be changed to make a soft, creamy candy?	I. Principles of sugar cookery A. Temperature B. Invert sugar C. Crystallization	Food texts Our Candy Recipes—Van Arsdale, Monroe, Barber
Ability to make simple home-made candies		II. Proportions for candy III. Do's and Don'ts in candy making	Candy and Candy-making—Bookmeyer
Ability to plan and serve refreshments for special occasions	Plan and serve the food for some occasion at school or at home: Buffet supper to a large group Mother's tea A children's party A waffle supper Birthday party Club meeting	IV. Other sweet-meats for gift boxes V. Type of food to serve VI. Dressing up simple foods VII. Dainty ways to serve food VIII. Decorating the table IX. How to serve food	Current Magazine Articles Table Service and Decoration—Gunn Meal Planning and Table Service—Bailey Catering for Special Occasions—Farmer

Child Development

(Four to six weeks)

Girls can best learn to understand children through actually observing them. Observations of children may be made in kindergarten, primary room, on children's playgrounds, during children's hour at library, in primary room in Sunday school, in free play in the neighborhood, or in an observation school carried out in connection with the course. Each girl might choose a child whom she can observe at regular intervals.

Aims

1. To give the students some understanding of the normal mental, physical, and intellectual development of little children, so that they may be more intelligent big sisters
2. To give girls some ability to analyze and handle situations in which they are dealing with children

The high school girl and young children

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Interest in wishing to know little children	The class should be directed in observing some of the interesting problems of young children.	I. Interest approach A. Most high school girls have difficulty with younger brothers and sisters because they do not understand children	Pictures of children
Interest in studying children as separate individuals	A series of pictures such as the Jessie Wilcox Smith magazine covers may be attractively mounted and put on the bulletin board just before introducing the	B. Children's questions are asked from interest as well as from curiosity and should not be ignored but answered in a manner to be of educational value	

The high school girl and young children—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	unit. Each picture will suggest some interesting phase of child life.	C. Direct the interest of children into activities D. Children should be given a reason for doing things E. Children should be prepared for disappointments F. Children should be helped to make their own judgments	Child Care and Training —Faegre and Anderson Problems in Home Living—Justin and Rust Care and Training of Children—Johnson and Goodspeed
Understanding of importance of right development, both mental and physical, of the child	Do big sisters always treat little brothers and sisters as fairly as they do older ones?		
Appreciation of the important part the high school girl has in development of children	Discussion of importance of setting good examples as big sisters. What can high school girls do to improve themselves so that they can get along better with children?		

Mental development

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Understanding of the way children learn Understanding of the formation of habits	Mary was trying to teach Billy, aged 4, to put his new picture puzzle together. She would put it together, then tear it up and ask him to do it. Billy lost interest and wouldn't play. Why wasn't he interested? How could Mary have gained his interest and taught him? Discussion of ways children learn to do things and how habits are formed. When Bob was permitted to eat with the family for the first time, he was told to sit up, eat slowly, not to spill, and try to be quiet. After several days he had not improved at all so he was sent back to the nursery to eat. Why did Bob not act properly when he knew he would have to eat in the nursery again? Try to help a younger	I. Learning A. Children are in an almost constant state of learning B. Principles of habit formation 1. Trial and error behavior 2. Repetition 3. Law of satisfaction C. Children respond readily to suggestion D. Children learn by 1. Conditioned responses 2. Negative adaptation E. Children learn by imitating examples set before them	Training the Toddler—Cleveland The Problems of Childhood—Angelo Patri Are You Training Your Child to be Happy?—Children's Bureau Habit Training for Children—National Committee on Mental Hygiene

Mental development—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	brother and sister form a habit.		
Understanding of the principles of discipline	All children have to learn in one way or another what conduct contributes to their safety and well-being. Some people begin to slap and spank children in infancy, others use threats. shutting the children up in a closet, etc. What other more constructive methods will guide conduct, so that it may come as the result of the child's judgment, rather than as the result of fear imposed from without? The Bible says "Spare the Rod and Spoil the Child". How might this be applied in good child training?	II. Obedience is necessary for convenience and safety A. Guide conduct by 1. Sympathy with child's ability 2. Understanding 3. Cooperation with child 4. Setting up standards 5. Expecting consistent obedience 6. Teaching right and wrong 7. Suggestions and requests instead of commands 8. Praise and rewards instead of bribes III. Punishment A. Form of disapproval intended to teach right conduct 1. Methods and types of punishment	Applying Nursery School Methods of Child Training at Home—Kansas State College Child Care: The Pre-School Age—Children's Bureau

Some ability to analyze situations and to understand some ways in which they may be met	Under what conditions is it justifiable to use punishment? Discussion of types and methods of punishment. Decide on the principles of punishment to follow and try to practice them.	2. Reasons for using 3. Results of improper punishment 4. Rules to remember in inflicting punishment	

Emotional development

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to guide children's natural impulses and emotions A. Fear B. Pleasure C. Anger	Jane was taking care of Joe, three and a half years old. He refused to go to bed at his regular time, so she told him that she would call the policeman to get him. Joe went right to bed. Discuss other methods that might have been used, and compare the effectiveness of each. The class may list fears they have had and try to trace the causes.	I. Emotional development A. The three instinctive emotions 1. Fear a. Causes b. Dangers of too much, of too little c. Methods of preventing fear, and of developing courage 2. Pleasure a. Show how affection and pleasure are developed b. Causes and results of jealousy, and ways of treating 3. Anger a. Causes of anger or temper	Applying Nursery School Methods of Child Training at Home—Kansas State College Child Management—Thom. Children's Bureau, No. 143 Wholesome Childhood—Groves Does Your Child Have Temper Tantrums?—National Committee on Mental Hygiene

Emotional development—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Alice, aged four, is afraid to go to bed in a dark room. How may she be helped to overcome this fear?	tantrums, effects, and methods of handling b. Control of temper c. Necessity of calm emotional environment	

The factor of environment

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the child's problem of adjustment to the group in which he lives	Mary, aged one, has learned to walk alone. She constantly pulls covers from tables, opens drawers and climbs the stairs. Her mother is very busy and cannot watch her all of the time. How may Mary be taught to play safely by herself?	I. Environment A. Child learns to adjust self to 1. People 2. Customs 3. Environment B. Effect of environment on 1. Habits 2. Character 3. Emotional life C. Heredity—comparison of heredity and environment	Child Care and Training —Faegre and Anderson

Some understanding of hereditary traits and the effect of environment on the child	Jack, aged three, had a very bad temper and was quite destructive. His mother said he inherited it from his father so she could do nothing about it. How might the father's unruly temper affect Jack? Observe behavior characteristics of some child and try to determine how much is due to environment.		

Development of social and moral character

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to help a child acquire: a. Initiative b. Self-reliance c. Responsibility	Katherine, 4, likes to play outside, but as soon as she comes in she calls for her mother to help her with her wraps. The mother leaves her work and comes. Should it be necessary for the mother to leave her work and experience all these interruptions? How could she teach the child to do this for herself?	I. Social growth A. Development of independence by giving child responsibility B. Interest and praise for efforts from parents are essential C. Development of responsibility in child by 1. Giving him little jobs 2. Care for own wraps	Applying Nursery School Methods—Kansas State College

Development of social and moral character—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Discussion of the value of responsibility, self-reliance, etc.	3. Dressing self 4. Feeding self 5. Care for self at toilet 6. Care of play equipment 7. Providing place of his own for toys, etc.	Infant Care—Children's Bureau
	The class may observe some child and list all the things that he can do for himself or for others, noting his attitude toward doing these things.	D. Curiosity results from interest or from a desire to know, and is a step toward intelligence 1. Child's curiosity develops gradually and his questions change from requests for information to reasons why	Disobedience, Lying, Stealing, Environment, No. 143, 1926—Children's Bureau
Appreciation of the development of a. Curiosity b. Exploration c. Desire for collection	Betty, 4, had a desire to collect bridge tallies that her mother brought home. One day she climbed up on a chair to take one from the buffet, and slipped and broke one of her mother's nice candle holders. Discuss ways in which her mother might deal with her and prevent future occurrences of this sort.	a. Questioning is used by some children to "show off" b. Show methods of curbing this tendency 2. Development of the desire to explore a. Results of wise and of misguided direction	Child Care and Training—Faegre and Anderson Problems in Home Living—Justin and Rust Training the Toddler—Cleveland
	Discussion of development of curiosity and methods of dealing with it.	D. Development of instinctive desire to collect 1. Desirable and undesirable results E. Importance of teaching honesty 1. Methods used 2. Cause of lying	

	Observe a child who has either a great desire to collect or a strong curiosity. List his habits, and analyze the methods used in dealing with him.	3. Methods of dealing with lying F. Respect for property 1. Value of cooperation and unselfishness G. Necessity of teaching courtesy	
Some ability to teach children a. Honesty and truthfulness b. Respect for property rights of others c. Unselfishness d. Cooperation e. Courtesy and respect for authority	Tommy, aged 5, was playing with his little sister, Jane, aged 3. He became angry at her because she accidently fell over his feet and spilled his sand. He threw her doll and broke it, but denied it when she went crying to mother. How might an adult go about analyzing and dealing with such a situation? Why did Tom react in this way instead of being honest?		
	Discussion of honesty, cooperation, etc., reasons for lying, and methods of curing.		
	Attempt to help some child acquire one of these qualities.		

Play in child development

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Interest in observing children with regard to their attitude toward play	Observe some small child at play.	I. Play A. Types of play best liked by children of different ages	Best Toys for Childhood and Their Selection —Leonard
Appreciation of the aims and value of play	Billy, 6, has an imaginary playmate with whom he is content to play inside by the hour. While he is so engaged he is never in mischief and is no trouble to anyone. His mother says he is a perfect child. Suppose another mother disagrees. Discuss.	B. Study of aims, benefits of play 1. Muscle development 2. Learning by doing 3. Cooperation and leadership 4. Pleasure and happiness 5. Exercise 6. Imagination	Playthings—Bureau of Educational Exp.
	Discussion of value and benefits of play.	C. Types of play 1. Suited to age of child 2. Should stimulate creative ability 3. Should hold child's interest	
Understanding of the benefits derived from play Understanding of the types of games that are suitable for children of various ages	George, 4, has just moved with his family to a new town. Because of financial conditions they must live in a rather poor location where there are no desirable playmates. Should George's mother permit him to play with these children and run the risk of his learning some bad habits, or should she keep	D. Games 1. Suited to age 2. Value 3. Harmful results of poor selections 4. Importance of wise direction of play	

	him away from such associates?		
	Discussion of play, suitable types, benefits and undesirable results.		
Ability to direct play activities of younger children	Study of suitable games. Teach a new game to the group of children who play in the neighborhood.		

Stories, pictures, and music

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the value of stories	Jane, aged 3, asked for a story before going to bed, so her sister told her the story of Little Red Riding Hood. That night she cried out in her sleep about the big wolf. Why did the story affect her in this way?	I. Stories A. Value of stories 1. Develop imagination 2. Knowledge 3. Ideals and standards 4. Morals 5. Ability to listen and repeat story told 6. Entertainment B. Selection of suitable stories 1. Harmful results of wrong stories	Child Care and Training —Faegre and Anderson
Ability to select suitable stories and to acquire some art in story telling	Discussion of stories, value, types. Is the story of Jack and		

Stories, pictures and music—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	the Beanstalk suitable for Jane, aged 3, or Billy, aged 6?	2. Rules for telling stories to interest children	
	Learn to tell stories in an interesting manner and tell some to children.		
Appreciation of the value of pictures, and some ability to select pictures for children	Mary, 4, has a new picture book of toys, animals, etc., to color but she sticks to her old picture book of the little children playing at the seashore. Why does Mary like this one best?	II. Characteristics of good pictures A. Stimulate imagination B. Develop sense of beauty C. Give information D. Develop interest in stories	
	Discussion of pictures suitable for children.		
Appreciation of and ability to select suitable music for children	Betty, aged 3, sings little songs. What might be done to help her learn new ones and to keep up her interest in music?	III. Music A. Value of music B. Types of songs, records, etc., that are suitable	
Some ability to select correct play equipment for children of various ages	Determine at what age to give a child of less than school age a. A ball of nine inches in diameter	IV. Value of play equipment A. Toys suitable for various ages B. Characteristics of desirable toys C. Teaching children respect for	

	b. Tools such as saw and hammer c. A tub of water to play in occasionally d. Paper and crayons e. Paper and scissors	property and responsibility in relation to care of playthings	

Organization of a play school

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Interest in observing children in a play group Ability to recognize behavior characteristics of a child	The organization of a play school provides an opportunity for the supervised observation of small children, and the normal activities of a group present excellent problems to challenge thinking on the part of the high school girl. Make an observation plan.	I. Organization of a play school A. Make plans for 1. Rooms 2. Equipment 3. Children 4. Transportation 5. Schedule B. A possible schedule 9:30-9:55—Good Morning Song—Free play 9:55-10:10—Songs 10:10-10:30—Lunch and rest 10:30-10:35—Toilet 10:35-11:05—Outdoor play Organized games, 15 minutes Free play 11:05-11:25—Story Telling 11:25-11:30—Put on wraps	Score Card for Parents and Children—Hedger Applying Nursery School Methods of Child Training in the Home—Kansas State College Child Care and Training—Faegre and Anderson

Physical development

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Interest in observing the physical ability of children of different ages	Observe a group of children of various ages at play. List the different things they do.	I. Physical development A. Children must acquire muscle coordination and manipulative ability gradually	Problems in Home Living—Justin and Rust Infant Care—Children's Bureau
	Discuss development of muscular coordination.	B. Study of body conditions of health and outward conditions	
Ability to detect characteristics indicating health Appreciation of the importance of acquiring health habits early	Tom, 4, and Jackie, 3, play together. Jack is larger and much more active than Tom and always takes the lead in their play. Everyone always speaks of Jack as a very healthy child and of Tom as a "frail" child. In what ways do Jack and Tom probably differ? Discussion of health characteristics. How might Tom be made a healthy child?	C. Value of health habits D. Health habits, how acquired 1. Cleanliness 2. Regular sleep, elimination 3. Good posture, exercise 4. Fresh air E. Food habits 1. Suitable foods 2. Food value 3. Causes and results of malnutrition	Dietetics for High School, Revised—Willard and Gillett
	Health habits and methods of helping children acquire them.	F. Development of food habits 1. Regular eating hours 2. Proper amounts of food	Foods texts Nutrition Work With Children—Roberts

Ability to direct children in acquiring health habits	It has been decided that one reason Tom is so frail is lack of proper food. Work out a plan for teaching him proper food habits.	3. Likes and dislikes 4. Mastication, and eating habits 5. Causes and results of undesirable food habits a. Methods of combating this situation	Child Management—Thom Good Food Habits for Children—Children's Bureau Applying Nursery School Methods—Kansas State College
Understanding of the importance and part nutrition plays in the child's development	Discussion of nutrition for children. Malnutrition, its causes and results.		
Ability to direct children in acquiring proper food habits	Mary Lou, 4, picked over her food and ate only a few bites before asking for dessert, which her mother gave her. Should she have been allowed her dessert or forced to eat her other food? Reasons.		
Ability to understand and help children overcome undesirable food habits	Discussion of method to use in helping children overcome undesirable food habits.		

The factor of clothing in child development

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Understanding of the relation of proper clothing to health Ability to select correct clothing for children	Don's aunt had sent him a nice new blue sailor suit, and he had worn it down town, but he asked to change when he got home. His mother told him to wear it for his daddy, and could not understand his dislike for it. Later she noticed him pulling at the sleeve, but said nothing. What conclusions might be drawn from his actions? Discussion of clothing in relation to health.	I. Clothing A. Clothing may affect 1. Health 2. Behavior 3. Physical condition 4. Growth in independence B. Study of clothing in relation to 1. Style a. Simplicity b. Chance for self-help 2. Comfort and sanitation 3. Material a. Durability b. Serviceability 4. Colors	Play suits Winter clothes How to Make Children's Clothes—Singer Sewing Machine Co., 25 cents
	Discuss: Development of self-confidence through clothes. Harmful effects of improper clothing on behavior.		
	Help to select some garments for a child or construct a suitable garment for a child.		

Clothing: Selection, Construction, and Care

(Ten to twelve weeks)

Aims

1. An understanding of the function of clothing in maintaining health
2. Some ability to apply the principles of color and design in selection of clothing suitable to the individual
3. Ability to keep a personal account of the clothing allowance
4. Understanding of good shopping practices
5. Ability to select, use, and care for sewing equipment
6. To develop skills necessary for the care, repair and construction of wash garments
7. To set up standards for the selection of wash materials and of readymade wash garments

Good grooming

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the importance of a good personal appearance	Jean says that Joy King, the girl who visited her last summer, is the best groomed girl she has ever known. What is meant by that?	I. Factors in personal grooming A. Cleanliness B. Posture 1. Standing 2. Walking 3. Sitting C. Wearing clothes 1. Clothing to express personality 2. Ethics of dress 3. Cleaning and pressing 4. Neat fastenings 5. Straight heels 6. Pleasing accessories	Art in Home and Clothing —Trilling and Williams A Girl's Problems in Home Economics —Trilling and Williams
Understanding of the factors essential to good grooming	Enumerate characteristics of a neat, clean girl. Does the girl who uses conspicuous make-up, and "touches up" in public places meet these standards?		On Being a Girl—Gibson Clothing for the High School Girl—Baldt and Harkness
A desire to be well-groomed	Discuss the advantages of being "well-groomed"		Fabrics and Dress —Rathbone and Tarpley

Planning a wardrobe

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to determine the needs of a high school girl's wardrobe	Alice is considered the best-dressed girl in school. She attributes her success to carefully selected clothing. What factors must other girls consider if they are to reach her standard?	I. Inventory A. Meaning B. Value C. Importance of personal accounts II. Relation of clothing needs to income	Principles of Clothing Selection, Revised —Butterick Clothing for Women, Revised—Baldt
Ability to distinguish between wants and needs	Let each girl take an inventory of her wardrobe and make a budget plan for a one-year or a three-year period.	A. Available income for family clothing B. High school girl's share C. Planning clothing needs in relation to income 1. Outer garments	Earning and Spending the Family Income—Friend Economics of the Family —Taber and Wardell
Ability to keep a personal account	Show samples of clothing wardrobe plans.	2. Under garments 3. Shoes and hose 4. Hats and gloves 5. Accessories 6. Miscellaneous D. Ways to reduce clothing cost 1. Careful selection a. Color b. Design c. Real quality d. Readymade vs. homemade 2. Care	Problems in Home Living —Justin and Rust. Unit 2 Clothing: Choice, Care and Cost—Woolman Clothing Budgets and How to Use Them— Wm. Filene Sons, Boston Successful Family Life on the Moderate Income —Abel
Judgment as to when to buy and and when to make undergarments	"After taking an inventory of their wardrobes many of the class have found that they need some type of un-	III. Selection of underwear A. Relation of underwear to 1. General appearance 2. Health	Personal account books

Ability to select style and material suitable for making undergarments	derwear for the summer. What will they need to know in order to select suitable ready-made underwear or to select suitable materials and patterns to make the garments at school?”	3. Modesty 4. Cost B. Readymade vs. homemade 1. Fit of garments 2. Cost 3. Serviceability 4. Time for making C. Selection of style 1. Suitability 2. Personal taste 3. In relation to laundering	How to Know Textiles —Small Fabrics and Dress —Rathbone and Tarpley Textile Fabrics—Dyer Clothing for Women, Revised—Baldt. The Story of Rayon —Viscose Co., 171 Madison Ave., N. Y. Cotton Fabrics and Their Uses—Textile Div. U. S. Dept. of Commerce—5c Selection of Cotton Fabrics—FB 1449
Understanding of the importance of hygienic underwear	Two pieces of material suitable for undergarments are for sale. One is very smooth and stiff and the second is soft and fine. What factors cause this difference? How can the quality of materials be tested at the store? The store displayed sateen, a print, crepe, nainsook and dimity. Which materials should be chosen for the undergarments the members of the class are to make and why? Examine samples from the scrap box and classify them as to suitability for undergarments. Make simple tests to assist in selection of materials.	D. Selection of materials 1. Hygienic characteristics of textile fibers a. Conductivity b. Hydroscopic quality c. Evaporation of moisture 2. Laundering qualities 3. Wearing qualities 4. Comparison of cotton with rayon 5. Finishes applied a. Sizing b. Calendering c. Dyeing 6. Tests for determining quality 7. Materials suitable for undergarment to be made 8. Amount needed	

Planning a wardrobe—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Note: If the students have had clothing work in the elementary school, or have done a good deal of 4-H club work, it is probable that undergarments should not be made; but the principles involved, should be applied to the making of children's garments and a simple wash dress.		

Art principles in clothing selection

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Knowledge of the basic principles of color and design	"We all want to be as becomingly dressed as possible. What will help me to know when a style is most becoming to my figure?"	I. Selection of wash garments for school A. Essential qualities 1. Appropriate 2. Durable 3. Comfortable 4. Easily laundered B. Design 1. Suitability of line to figure a. Use of straight or curved lines	Art in Home and Clothing—Trilling and Williams Color and Design—Gillum Clothing for Women, Revised—Baldt. Art in Everyday Life—Goldstein
Ability to apply these principles to selection of clothing and materials	What will a short, stout girl have to consider that the average medium height person will not?		

Appreciation of the effect of line and color on personal appearance	Agnes did not elect clothing work because she preferred to buy readymade clothes. Compare the wardrobe she was able to have with one of a girl who could apply art principles and make some of her own garments. Each averaged five dollars a month for clothing expenditures.	Perpendicular Horizontal Diagonal Curved b. How to break up space with lines giving good proportions c. Unity of line 2. Suitability of line to material a. Straight for heavy material b. Curved for soft material	Color Secrets—Gillum Principles of Clothing Selection. Revised—Butterick Art Training Through Home Problems—Russell and Wilson Fundamentals of Sewing—Ingalls Appropriate Dress for High School Girls—Spellman Texas Bulletin
Some skill in selecting designs and colors best suited to the individual	Pick out a good color combination worn by someone in the class and have the class justify the choice. Each member of the class should apply art principles in selection of design and materials for the wash garment that is to be made.	3. In relation to color a. How to work out color schemes b. Choosing suitable colors (1) For figure (2) For individual coloring (3) For occasion c. The dress in relation to rest of wardrobe (1) Matching with other garments	

Estimate and purchase of material

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to take measurements	Several members of the class may need to use the same pajama pattern. What alterations will the large and small girls have to make so that it will fit them?	I. Measurements A. How to take measurements 1. Length 2. Width B. Patterns 1. Factors in selection 2. Interpretation 3. Testing of measurements 4. Alteration 5. Laying out of a pattern to compute material needed 6. Lay out material a. Right and wrong side b. Up and down c. Right and left d. Two pieces alike cut at same time when possible e. Large end of pattern to cut end of material 7. Pinning pattern in place 8. Cutting 9. Marking	
Ability to estimate the amount of material needed for a garment	After taking the measurements that are necessary to use in testing a pattern, decide which should be used in estimating the amount of material that will be needed.		
	"When we are ready to select a garment, we must consider the color that will be most becoming. If you were a small girl with golden hair, blue eyes, fair skin, with slight coloring in your cheeks, what would you need to know about color before making your selection?"		

Ability to shop for materials needed	The ability to shop well helps one to keep within clothing allowance. What should one know to shop intelligently for the materials needed for a garment?	II. Intelligent shopping A. Definite plan B. Attending seasonal sales or bargain sales C. Judging quality by suitable tests D. Shopping ethics 1. Handling goods 2. Return of goods 3. Consideration for salespeople and others E. Decision as to amount to spend	Selling Mrs. Consumer —Christine Frederick Style and Clothing —Dooley The Shopping Book —Baldwin Economics of Retail Selling System—Nystrom The Theory of Advertising —Scott, Small, Maynard and Co. Textiles and Clothing —Sage, Chap. 18
Understanding of the principles of good shopping	Shop for materials and evaluate the success of members of the class An evening wrap was bought by a certain girl on Friday. On Saturday she wore it to a dance and on Monday she took it back saying she had decided it wasn't the kind she wanted so she would return it. It was a charge sale. Aside from the dishonesty, what factors make this poor shopping ethics?		

Sewing equipment

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Knowledge of equipment needed for sewing	A workman needs suitable tools. What are the tools or equipment needed for a sewing box? Demonstrate different kinds and sizes of scissors, pins and needles best suited to common use.	I. Equipment for sewing A. Scissors B. Pins C. Thimble D. Needles E. Tape F. Thread	A Girl's Problems in Home Economics —Trilling and Williams The Sewing Book —Blanche Hyde
Ability to use and care for sewing machine	Every piece of machinery demands correct use to give service. Students should study the charts and sewing machine manuals so that they will be familiar with the different parts and their uses. Students should learn to thread, treadle, vary the tension, shorten the stitch, and fill the bobbin. The needle bar will not move on one of the machines. What are the probable causes?	II. Sewing machines A. Types of machines B. Parts, uses C. Threading D. Regulation of tension and length of stitch E. Use of attachments F. Care of machine 1. Oiling 2. Cleaning 3. Setting needles	Singer Sewing Machine Manual Sewing Machine Wall Charts Modern Cinderella—Film from Singer Sewing Machine Co. Sewing Machines—Cook

	Each time Mary starts to stitch the upper thread breaks. Help her overcome this difficulty.		

Garment construction

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to cut out and construct the garment Ability to evaluate the finished garment	When cutting out a garment should the wider or narrower portions of the pattern be placed toward the end of the material? When the material has been cut out, each individual should decide what seams and finishes will be most suitable for each part of the garment. The use of a carefully thought-out plan of work should be emphasized.	I. Garment construction A. Final testing of pattern B. Cutting C. Choice of seams 1. Suitable to garment 2. Suitable to material 3. Points to remember in making good seams D. Hems and other finishes 1. Suited to the garment 2. Correct construction 3. Adapted to individual's ability E. Pressing 1. During construction 2. Of the finished garment	Clothing Construction —Brown, et al. Clothing for Women, Revised—Baldt Score Card for Judging Clothing, Selection and Construction—Misc. Circ. 90, U.S.D.A. A Girl's Problems in Home Economics —Trilling and Williams

Shoes and hose in the wardrobe

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to choose serviceable and well-fitted shoes and hose	"If each student were to select a pair of shoes which would be suitable to wear with the dress made in class, what points would need to be considered before making the final decision?"	I. Selecting shoes A. Conformity to shape of foot B. Proper size C. Soft and flexible D. Suited to the occasion	Foot Health—Leaflet. Metro. Life Insurance Co. Leather Shoes: Selection and Care—F.B. 1523
	Use the pedigraph and make an outline of the shoe. Criticize the shoes as to length, width, heel and shape.	II. Selecting hose A. How to determine size B. Types of hose 1. Full-fashioned 2. Seamless 3. Mock seam	Good Fitting Shoes for Every Member of the Family—Circ. 191, Wisc. Ext. Service
	Two girls were selecting shoes for school. One chose high-heeled pumps and an elaborate buckle. The other took a medium-heeled oxford, with good toe room.	C. Fibers used in hose 1. Cotton 2. Wool 3. Silk 4. Rayon D. Cost in relation to service	Selection and Care of Shoes and Hose—Circ. 202, U. of Mo., Columbia, Mo.
	Analyze their choices and help the one who made the poorer selection get a better point of view.	E. Care 1. When putting on 2. Daily washing 3. Mending	Shoes for Health—Circ. 93, Maine Ext. Service Feet and Shoes. 1929. Circ. 10, Utah Ext. Service
Ability to care for hose and shoes	Alice says that she has to buy a pair of hose every week. What may be some		

	of the reasons why her stockings do not last?		Shoes and Feet for Good Understanding—Practical Home Ec., May, 1930
	"How many pairs of stockings do you use each year? Estimate the cost. Is this a reasonable portion of your clothing expenditures? Suggest ways in which you believe you can get just as good service for less cost."		Hose: Selection and Care —Iowa State College Ext. Service
	Secure an exhibit of hosiery from local stores for demonstration purposes.		
	Demonstrate the proper way to put on hose and the ways to mend stocking runs.		
	Mend hose and give demonstration on phase of care most needed by class.		

Care and repair of clothing

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the importance of care and repair of other garments in the wardrobe	What practical methods of care and repair should a high school girl be able to use in order that she may add to the appearance and durability of her clothes?	I. Reasons for care and repair of clothes A. Economy B. Hygiene C. Artistic necessity D. When to repair 1. Consideration of location and nature of damages a. Strain b. How prominent c. Best methods of repair d. Materials to use	A Girl's Problems in Tome Economics—Trilling and Williams Making Clothing Last Longer—Circ. 113, U. of Wisc. Ext. Service Clothing: Care, Repair and Renovation—Mont. Ext. Service
Knowledge that clean clothes are essential to health	It is expensive to send garments to the dry cleaners as often as they need spots removed. Inquire at the filling stations about non-inflammable dry cleaning fluids that would be safe for home use. Consider the advisability of renovating faded garments by tinting and dyeing.	II. Care of clothes A. Brushing 1. Hats 2. Coats, etc. B. Airing C. Pressing D. Small repairs, buttons, etc. E. Hanging up clothes F. Removing stains and spots G. Mending and patches H. Retinting I. Storing J. Glove mending K. Shoe polishing and heel straightening	Removal of Stains from Clothing and Other Textiles—F.B. 861 Home Dyeing—Bulletin 43, Ia. State College The Instructor in Garment Cleaning—Hubbard, Nat'l Ass'n. of Dyers and Cleaners, St. Louis, Mo.

Children's clothing

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An interest in helping with the wardrobe of younger members of the family	Mary's little sister, who is four years old, needs a new outfit for spring. Since Mary is in the clothing class her mother has given her permission to select the garments needed and make some of them. Mary wants to know if the principles of clothing selection apply to children the same as to grown-ups. List the things Mary will need to know if she plans wisely.	I. Clothing for young children A. Relation to development 1. Mental 2. Social a. Color effects on disposition 3. Freedom for play and growth B. Types of garments most often made at home 1. Rompers 2. Sunsuits 3. Dresses C. Characteristics of suitable materials 1. Washable 2. Fast-colored 3. Pleasing in design 4. Durable	Children's Rompers —F.B. 11 Sun Suits for Children F.B. 24 Dresses for Little Girls Leaflet 26, U.S.D.A. Suits for the Small Boy —Leaflet 52, U.S.D.A. Play Suits for Winter —Leaflet 54 How to Make Children's Clothes—Singer Sewing Machine Co.

GRADE TEN

Food Preservation

(Two to three weeks)

Aims

1. Ability to judge when home preservation of food is practical
2. An understanding of the practical methods to use in home preservation
3. Ability to preserve foods by different methods
4. Understanding of the precautions to take to avoid poisoning from food spoilage
5. Understanding of characteristics of a standard product
6. Ability to compare commercial and home products, considering cost, time, quality

Causes of food spoilage

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Knowledge of the factors that justify home preservation of foods	The Browns, who have a large family, and a small income, had a good garden and a large apple crop this year. They could not use the fruit and vegetables as they became available. What might be done with the excess and why?	I. Reasons for home preservation of food A. Reduces food costs B. Offers variety in diet C. Provides convenience D. Saves excessive food supply	Everyday Foods —Harris and Lacey Foods and Home Making —Greer Foods: Preparation and Serving—Bailey Food Preservation —Ola Powell Malcolm Science of the Home —Ellis and Giles
An understanding of the causes of food spoilage	Have the class carry on experiments with different foods to demonstrate the causes of food spoilage and the way in which micro-	II. Food spoilage A. Conditions for growth of micro-organisms 1. Bacteria 2. Yeast	

	organisms may get into the food. Last year Sally Brown did the canning for her mother. Later in the autumn, she discovered that two cans of apples, a can of peas, and a jar of chicken were spoiled. What were the causes for this loss in her food supply?	3. Molds B. Types of spoilage 1. Fermentation 2. Flat sour 3. Putrefaction 4. Botulism	Civic Science in the Home Community—Hunter and Whitman Bacteria, Yeast and Molds —Conn Questions and Answers on Canning—Kerr Canning Company Canning Fruits and Vegetables at Home—No. 983, Nebr. Ext. Serv.

Home preservation

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the methods by which food spoilage may be prevented	Will it be necessary to sterilize the jars before packing meat to be canned by pressure cooker, the same as when canning peaches by the open-kettle method?	I. Types of preservation A. Drying B. Sterilization C. Use of preservatives D. Storing	Canning Fruits and Vegetables at Home —F. B. 1471 Bacteriology of the Home —Johnson
Ability to preserve foods in at least three ways	Mrs. Smith never seals her jelly air-tight and yet it keeps indefinitely. Why should jelly keep when can-	II. Methods of preservation A. Drying 1. Sun	Farm and Home Drying of Fruits and Vegetables —F. B. 984

Home preservation—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	ned tomatoes would spoil? Many communities in Montana are at a high altitude. What changes will have to be made in time schedules suggested for cold-pack canning to be sure of good results? Will hot-pack, cold-pack or pressure cooker canning insure safest products in high altitudes? What precautions should be taken to prevent poisoning from botulism which might be present in canned meat or vegetables?	2. Oven method B. Sterilization 1. Open kettle 2. Cold-pack 3. Hot-pack 4. Pressure cooker a. Procedure b. Equipment c. Convenience d. Effectiveness C. Preservatives 1. Dense sugar solutions 2. Pickling—vinegar and spices 3. Saltpetre 4. Smoke 5. Waterglass, bran	Home Canning of Fruits and Vegetables —F. B. 1211 Vegetables and Meats in the Home—No. 124, State College, Penn. Book of Recipes and Helpful Information on Canning—Hazel-Atlas Glass Co., Wheeling, W. Va. Canned Fruits, Preserves and Jellies—F. B. 203 Farm and Home Drying of Fruits and Vegetables —F. B. 984
An understanding of ways in which to manage with the equipment on hand	If all jars were filled and it was not possible to buy more, what other methods than canning might be used to preserve foods? Food preservation for	III. Size of equipment A. To save fuel B. To avoid repetition of process C. Material suited to process	Steam Pressure Cooker No. 17—Illinois Ext. Serv.

	homes in the community reduces the expense and makes possible the handling of larger quantities of food.		The Steam Pressure Cooker—Home Ec. Bulletin No. 17, Iowa State College
	The directions on the cold-pack methods of canning state that the filled jars should be boiled a definite length of time. What equipment is there in the laboratory that will enable the class to do as much as possible at one time?		Food Preservation —Chenoweth
	How can the equipment on hand be used to improvise a pressure cooker? What types of a pan should be chosen for jelly-making?		
	There are ripe tomatoes to can. What methods shall be used to make the tomatoes most attractive and natural in flavor? Is the method practical from the standpoint of time?		
	When the cold-pack method is used, the jar is not full at the end of the process. Are		Analysis of Canned Peas and Beans, showing composition of different

Home preservation—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	there any methods that will insure a filled jar at the end of the process and that can be performed as quickly?		grades—No. 54, Bureau of Chemistry, U. S. D. A. Principles of Making Fruit Jelly—No. 289, Colorado Ext. Serv.
Knowledge of the requirements for jelly making	Mrs. Smith made some jelly from ripe apples. The jelly was syrupy and did not become firm. Later on she made some jelly from green apples and it was firm and not stringy. What factors would be responsible for the difference in these two sets of jelly?	IV. Pectin A. Alcohol B. Epsom salts C. Other ways in which pectin may be added D. Proportion of sugar in relation to amount of pectin E. Fruits rich in pectin and poor in pectin	Jellies, Jams, Marmalades, and Pickles—No. 64, N. Dak. Ext. Serv. Sugar Bowl Series, Vol. VI—Great Western Sugar Company
Ability to test fruit juice for pectin	Test peach, apple, and choke cherry juice for acid and pectin. How can jelly be made from juices that do not give a pectin test? Make jelly and relishes.		Kitchen Tests for Pectin in Jelly Making—Denton, Jr. Home Ec., Vol. 10, P. 520 Jellies and Jams—Certo Corp., Rochester

Ability to recognize characteristics of a standard product	Compare three grades of commercially canned fruit. Work out characteristics of a well-canned home product and a score by which the class will judge the quality of their products.		

Economic value of home preservation

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Understanding of the basis on which to compare home and commercial products	Mrs. Brown has a great deal of work in caring for her large family. Would it have been more economical for her to have purchased commercially canned fruits and vegetables instead of spending time and fuel in canning them herself? If she had time to either make some jelly and preserves, or to can vegetables, but not to do both, which would be most advisable for her to do?	I. Factors for comparison A. Cost 1. Cost of home canned products includes a. Canning equipment b. Fuel c. Labor d. Containers e. Food materials B. Quality 1. Flavor 2. Appearance 3. Keeping quality C. Individual touches in 1. Combinations 2. Flavors 3. Variety	Standard Containers for Fruits and Vegetables —F. B. 1196 Canning Budget—No. 53, Conn. Ext. Serv., Storrs, Conn. Canning Budget for Family of Five for Six Months—172 Ark. Ext. Service, Little Rock, Ark.

Home storage of food

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the methods of home storage that will best insure keeping of canned and fresh food supplies	Study the spaces available to store the canned food. Determine characteristics of good storage space for different types of food supplies.	I. Types of storage A. Basement B. Outdoor cellars C. Pits II. Suitability of storage space for A. Canned goods B. Fresh fruit and vegetables 1. Temperature 2. Humidity 3. Light	Home Storage of Vegetables— F. B. 879

Family and Social Relationships

(Three to five weeks)

Aims

1. To develop an understanding that each member of the family has responsibilities in the home
2. To develop ability in the girl to cooperate with others
3. To develop some judgment in the use of leisure time
4. To develop an understanding of the qualities of true friendship
5. To help the girl realize that there are certain "ear-marks" of good conduct
6. To help form an understanding of the rights of others
7. To develop interest and determination to acquire the desirable characteristics of a good citizen
8. To develop an understanding of the responsibilities we must share in making a satisfying community

Personality development

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To develop some appreciation of the advantages of a pleasing personality To create a desire for further development of desirable personal traits	During high school and the three or four years following, students are preparing themselves to earn a living and meet life's problems. It will be valuable for them to consider the characteristics that will assist them in their future work and ways in which these personal traits may be acquired.	I. Desirable personal attributes A. Personal traits 1. Patience 2. Cooperation 3. Self-control 4. Honesty 5. Courtesy 6. Adaptability 7. Thoroughness 8. Thoughtfulness 9. Good nature 10. Respect for laws, etc.	Suggested Outline for Content of Course in Social and Family Relationships—Jane Hinkley, Bulletin Clerk, College of Agr., Lincoln, Nebr. Score Card in Character Education—Helen Anderson, Denver Public Schools, Journal Nat'l Ed. Ass'n., Dec., 1930

Family and social relationships—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Girls should make a score card for personality and check from score card in "Fiber and Finish". Have girls list characteristics they lack and decide the method by which they may develop them Have girls watch relationships in their clubs, classes, assemblies, etc., and improve their personal traits.	B. Intellectual charm 1. Conversation 2. Reading C. Aesthetic charm 1. Education 2. Culture D. Spiritual charm 1. Good character E. Physical charm 1. Posture 3. Health a. Diet b. Colds 4. Complexion a. Skin function b. Cosmetics 5. Care of hair, nails, teeth, etc. 6. General appearance and neatness	Fiber and Finish —Dodd, p. 120 Fiber and Finish —Dodd, p. 83 Charm by Choice—Wadsworth, pp. 10, 96, 147 Fiber and Finish, pp. 116, 125, 130, 139—Nos. 1, 4, 8, p. 143 Charm by Choice, p. 52, p. 30 Charm by Choice, p. 77 The Business of Being a Friend—Woman's Press
To evaluate qualities that make for true friendship	It has been decided that one characteristic needed by everyone in any profession or work is the ability to get along with other people.	II. Friendship A. Responsibilities of a girl as a friend or classmate 1. Truthfulness 2. Loyalty	Poems about friendship

To develop judgment in choosing friends	This helps one make and keep friends. Find out what makes for good friendship and what one's responsibilities are as a friend. What determines friendships?	3. Unselfishness 4. Avoidance of all pettiness 5. Good-naturedness 6. Helpful criticism, not the kind that only injures feelings	
To develop ability to make and keep friends	Betty is a girl who is usually seen alone. She never seems to mix with others. Help her find ways of getting acquainted with people.	B. Making and keeping friends 1. Methods of getting acquainted with people 2. Ways of making friends 3. Ways of losing friends 4. Ways of winning back friends 5. Too intimate friendships 6. Number of friends 7. Confidences 8. Difference between friend and acquaintance	
	Formulate standards by which to choose boy and girl friends.		

Home life

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To develop an understanding of what constitutes a satisfying home	Since a large amount of time is spent in the home, and many personal traits are developed there, find out what an ideal home should be, and what one could do to help make it a more satisfying home.	I. Factors for a satisfying home A. Physical needs 1. Food, shelter, clothing, rest, comfort, money B. Intellectual needs 1. School, reading, music, etc. 2. Development of the individual	Family as a Social and Educational Institution—Goodsell The Family and Its Members—Spencer

Home life—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To develop some ability for helping create an ideal home	A home contributes to an individual's well-being and to the developmnet of his characteristics. Determine in what way this is made possible.	C. Spiritual needs 1. Love 2. Sympathy 3. Understanding 4. Inspiration 5. Ideals 6. Religious beliefs D. Social needs 1. Recreation 2. Personal enjoyment	Poems of Home —Edgar Guest The Path to Home—Guest Home—Guest Prayer for a Little Home —Bone "A House is Built of Brick and Stone"—Pope
	Mary was visiting over the week-end with Ruth. When she returned home, she felt rather disturbed and unsettled. She felt as if she had been under some nervous strain. Her sister had visited at the home of Marjorie and came home happy and restful and reported having had a wonderful time. Determine the types of homes in which these girls visited.	II. Factors which make for unhappy home life A. Living beyond means B. Jealousy or envy of others C. Favoritism D. Demanding favor without return E. Disregard of children's needs F. No standard in choosing friends G. Irritability due to ill health H. Selfishness I. Impatience due to overwork J. Lack of moral standards	Problems in Home Living —Justin and Rust Magazine articles and stories Mountain Meadows—Story in Harper's for Aug., 1930 Pictures that express Home
To create a desire for a satisfying home and successful family life	What are the causes of unhappiness in a home? Decide what makes a satisfying home.	K. Lack of proper recreation L. Unsympathetic attitude of members of the family M. Lack of mutual understanding N. Lax business methods	

	"A house is built of brick and stone, of sills, and ports and piers, But a home is built of loving deeds that stand a thousand years."—Victor Hugo		
To develop an appreciation of the importance of proper relationships between members of the family	The satisfying home is the background for most of the activities of a family group. Determine what each member does to contribute to its success. A sister has definite responsibilities to brothers and sisters. What may these be? A daughter has certain responsibilities in order to make the home a more satisfying one. Determine these responsibilities.	III. Maintenance of a home A. Mother's responsibility 1. Feeding the family 2. Care and training of children 3. Protection of children 4. Care of the house 5. Management of finances 6. Creating a home atmosphere a. Happiness b. Social ability c. Companionship B. Mother's contribution to the family income 1. Occupation of mother outside of home a. Need for earning b. Effect on family 2. Earning at home a. Management of income b. Keeping family in good health c. Keeping boarders (1) Effect on family life	Vital Traits of a Homemaker—Journal of Home Economics, Dec., '26 Teaching Family Relationships—Journal of Home Economics, Jan., '29 The Ideal Wife—Journal of Home Economics, June, '29 Definition of a Home —Williams, Teacher's Digest, Sept., '28 Home Economics Teacher's Digest, Jan. '29 Method in Teaching Family and Social Relationships—Journal of Home Economics, Dec., '28
Ability to see that a complete "family pattern" makes for best development of children	Determine the average yearly income contributed to the home by a mother who does not work for wages.		

Home life—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	What might brothers do to make the home more pleasant?	C. Father's contribution to family life 1. Financial support 2. Services a. Household repairs, etc. 3. Protection 4. Companionship 5. Care of children 6. Heredity — health, mental, moral, physical 7. Training of children	
To interest members of family to spend part of leisure time together To discover that a family can have good times at home instead of going away from home for pleasure and entertainment	How may a high school girl contribute or provide recreation for a family group? Mary, who is in high school, wants to go to the show almost every other night. What will determine how often she should go?	D. Children's contributions to family life 1. Perform services a. Assist parents b. Assist other members of the family c. Assume responsibilities of home	
To develop ability to use and enjoy leisure time with profit to self, family and community		IV. Recreation of the family A. Types of home recreation 1. Reading aloud 2. Candy-pulls 3. Popping corn 4. Listening in on radio 5. Inviting in a neighbor or friend 6. Family picnics 7. Family orchestra	Pictures of families having good times together Pupil exhibit of magazines the family might enjoy Problems in Home Living —Justin and Rust, pp. 156-175

		8. Family theatre parties 9. Sports 10. Taking pictures 11. Members of family take turns planning evening recreation 12. Camping trip 13. Song night 14. Porch supper 15. Story-telling for younger members 16. Making simple toys for younger members 17. Accounts of interesting happenings, sights or trips 18. Hobbies 19. Celebrating special occasions a. Festivals and holidays b. Return of member of family from trip c. Family birthdays d. Attainment of special honors, report cards, other achievements	Fiber and Finish —Dodd, pp. 60-70 Social Aspects of Homemaking—Bomar, pp. 132-148 Junior Home Problems —Kinyon and Hopkins, pp. 168-169, pp. 172-175 Adventures in Citizenship —Stewart and Harma, pp. 375-376

Home business administration

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Realization that spending of money is a family problem best solved by cooperation	Ellen spends afternoons or evenings taking care of the neighbor's children. She often earns more than her spending money. How may she care for her savings?	I. Financing the household A. Family resources and income 1. Allowance 2. Wages or salary 3. Gifts	Business of the Household —Taber p. 41 p. 262 p. 60 p. 66 p. 78 p. 350
To help develop the ability to spend money wisely	Let each student judge her own expenditures and plan a personal budget. Keen a record of expenses for two weeks. Doris' father thinks the family has been spending too much for groceries. Doris undertakes to save money by paying cash. Will this insure a saving?	B. Family spending 1. Arrangement between husband and wife 2. Use of money for a. Spending b. Saving c. Gifts 3. Household account system a. Inventories b. Budgets (1) Reasons for keeping (2) Methods of keeping	The Wanamaker Home Budget Service, John Wanamaker, Broadway and 4th Ave., N. Y. Problems in Home Living —Justin and Rust pp. 26-53 Back numbers of "Good Housekeeping"
	Students may keep household accounts or grocery accounts for one or two months. Ellen wants to start a checking account. How will she do this?	C. Factors influencing amount to be saved 1. Income 2. Number in family 3. Standard of living 4. Locality, etc.	Thru the Open Door —Metro. Life Ins. Company Let Budget Help—Metro. Life Ins. Company

	Ellen's father was too busy on Saturday to bank; so he asked her to deposit his check. How should she go about it? There are some home economics dues to be deposited. Let someone volunteer to deposit the money.	D. Management of income 1. Banking a. Joint bank account checks b. Deposit slips c. Bank books d. Bank draft e. Cash f. Credit g. Installment plan	My Unmathematical Soul Rejoices—Society for Savings, Cleveland

Homemaking as a vocation

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To develop an ideal for a future home	Should a girl who is contemplating immediate marriage prepare herself for a wage-earning vocation? What standards might be set up for ideal husbands? What problems should be discussed prior to marriage? How much money should be spent on a honeymoon?	I. Planning for the future home A. Choosing a life partner 1. Sound heredity 2. Mental and physical health 3. Character 4. Ability to earn a living 5. Companionship 6. Desirable age 7. Traits and habits B. Mutual understanding on 1. Religion 2. Personal freedom 3. Social life	An Introduction to Homemaking—Bomar Social Aspects of Homemaking—Bomar Girls and Their Problems—Coss Wholesome Marriage—Groves Problems in Home Living—Justin and Rust

Homemaking as a vocation—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Should a girl continue to work after she is married?	4. Finances a. Amount available b. Division of income c. Savings C. Standard of living D. Responsibilities of husband and wife II. Causes of divorce	Homemaking a Profession for Men and Women —MacDonald

Relation of family to community and state

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
To help students realize family training leads to community habits Pride in the community	In what ways does the successful family contribute toward the health, and mental and moral progress of its community? How can a high school girl help in community life?	I. Relationship of home to community A. Right of every child to be well-born, well-cared for and well-educated 1. Decreasing number of children 2. Married women working outside of home B. Social conditions 1. Effect of more leisure and less home activity on home life 2. Effect of automobile, radio, music, etc., on the home	

An appreciation of the contribution of the community to desirable family life	Pupils list community agencies in their town. Decide what the family should contribute to these agencies: a. Health laws b. School laws c. Traffic laws d. Sewerage systems e. Lighting f. Water system g. Traffic laws h. Quarantine laws i. Safety zone laws j. Care of public property k. Care of personal property l. Good recreational programs m. Churches Compare American home life with that of other peoples.	3. Emphasis on good morals and temperance 4. Changed family life due to growth of cities C. Participation of family group in public control of interests which affect the home D. Responsibility of home to the state 1. Patriotism 2. Americanization a. Read and discuss home life of the people	

Suggested home practice and home projects

1. Plan a "Home Nite"
2. Plan and carry out some family recreation
3. Care for younger brothers or sisters
4. Definite plan for helping Mother
5. Assume definite responsibility in home
6. Keep personal accounts to study share of family money
7. Assist in making house more convenient and attractive
8. Read aloud in family circle
9. Select proper reading and music for home
10. Do marketing for definite period of time
11. Aid in Community Clean-up Day
12. Make toys for children
13. Take charge at home so Mother can have one afternoon a week free
14. Give a birthday party for younger brother or sister
15. Keep own clothing account for a semester or school year

Construction and Remodeling of Wool or Silk Garments

(Seven to thirteen weeks)

Aims

1. Increased interest in being well-groomed
2. Ability to identify wool and silk materials and to give simple tests when buying them
3. Some ability in determining when a garment is worth remodeling
4. Ability to select construction processes suited to wool and silk materials
5. Increased understanding of materials in relation to suitability, wearing qualities and cost
6. Increased ability to make pattern alterations and proper fittings
7. Ability to care for wool and silk garments
8. To develop a sense of fitness in selection of accessories
9. To develop some ability to determine when it is best to buy readymade and when to make wool and silk garments

The clothing budget

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An understanding of the value of economical practices in planning a wardrobe	Jane wishes to have another winter school dress, but since her sister needs a spring coat, Jane must do without unless she can find something which she can remake. Make suggestions which would help her meet her problem.	I. Clothing inventory A. Number of garments B. Condition of material 1. Amount of material 2. Color condition 3. Amount of wear garment is likely to give C. Time necessary to remodel D. Cash outlay required	Clothing for the High School Girl —Baldt and Harkness Fabrics and Dress —Rathbone and Tarpley

Some understanding as to the amount one may justly spend on clothing	"You kept personal accounts in the ninth grade clothing unit and have very definite information as to your clothing costs. If each member of the family spent as much as you did, would it be a fair percentage of the income to spend on clothes? In case your share seems too high, what are some of the ways in which you might reduce the amount?"	II. Clothing budget A. Basis of plan 1. One year 2. Two or three years B. Factors underlying plan 1. Garments on hand 2. Money 3. Season 4. Upkeep	Economics of the Family—Taber and Wardell Clothing: Fundamental Problems—Jordan, Chap. 21 Art Training Through Home Problems—Russell and Wilson
	A person, whom all of the class know and consider to be well-dressed, plans her clothing expenditure over a three-year period. Have each member of the class use her inventory as a basis for a clothing budget for a similar length of time. Why is it that each individual's budget will be different?	III. Conservation of clothing A. Reasons for conservation 1. Economy 2. Saving of textile fibers B. Ways to conserve 1. Intelligent buying 2. Renovation 3. Remodeling garments 4. Repairing	New Clothes at Small Cost—Wisconsin Ext. Service The Ages of Women—Fairchild News Service 8 E. 13th St., N. Y.

Renovation of Materials

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Suppose a girl had $8.00 for her autumn shopping. Plan how she can get the most for her money, considering the garments on hand, their color and serviceability.	I. Preparation of material for remodeling A. Ripping B. Spotting or dry cleaning C. Dyeing D. Pressing	
	Sarah needs a skirt to wear with a slip-over sweater. Her aunt has given her an old long coat. What will she need to do before cutting out the skirt?	II. Materials for remodeling A. Wools usually more durable B. Silks likely to split C. Advisability of combining old and new materials	
	Ann wants to make over an old silk dress into a blouse for her suit. How may she tell whether the material is worth remaking?		

Wool, silk, and rayon textiles

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Some ability to select good woolen and silk materials	Wool and silk are the most expensive materials. They are often adulterated, yet the shopper pays the same price for adulterated materials as for pure. What is adulteration and how are materials often adulterated?	I. Wool A. Characteristics B. Woolen-worsted C. Tests D. Adulterations E. Care 1. Pressing 2. Shrinking	How to Know Textiles—Small Textile Fibers, Yarns, Fabrics —Bray Textiles and How to Know Them —Denny
Some ability in distinguishing silk from rayon	Rayon resembles silk in certain respects. How can a shopper distinguish between the two?	II. Silk A. Characteristics B. Tests C. Weighting and its effect	Textile Fabrics —Dyer
Ability to recognize some of the standard materials	Have samples of a few standard materials similar to those likely to be found in the local stores and in readymade garments. Study their characteristics, wearing qualities, factors affecting wearing qualities, price range, width, uses.	III. Rayon A. Characteristics B. Tests C. Care in laundering	Textiles —Woolman and McGowan Samples of materials Rayon exhibit

Wool, silk, and rayon textiles—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
A review of art principles as they apply to wool and silk materials	In a study of art principles that applied to wash materials the principle of texture was not considered. How do the textures of wool or silk materials present a problem that must be considered if the material chosen is to be most becoming to each type? Consider materials and their relation to styles and to individuals who will wear them. Emphasize all of the principles of design developed in the former clothing unit.		Same references as those listed in the ninth grade unit Making Smart Clothes —Butterick Short Cuts to Home Sewing —Singer Sewing Machine Co. Pattern Wall Charts Fitting Dresses and Blouses —F. B. 1530
Review of measurements and pattern alterations	Two members of the class have the same bust measurement but one girl's hip measurement is four inches larger. What alterations will be needed in the pattern?	IV. Pattern review A. Measurements B. Table of quantities C. Layout D. Alterations 1. Shortening 2. Lengthening	Fitting for Style and Individuality —Woman's Institute, Scranton, Penn.

	Two girls want to use the same pattern but one is six inches taller than the other. What alterations are going to be necessary? Mary's circular skirt pattern is too long. How will this alteration differ from that of a straight skirt pattern?	3. Increasing or decreasing hip or arm proportions	Making Smart Clothes —Butterick

Construction of wool and silk garments

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Some ability in choosing construction processes suitable for wool and silk materials	The seams that were found best suited to the wash materials were either french, mock french or flat fell in most cases. In examining wool and silk garments, these were not found. What makes the difference in the choice of processes? What kinds are best adapted to the materials each member of the class is working on?	I. Construction processes A. Types of seams suited to materials B. Finishing processes C. Tailor's tacks D. Use of tailor's chalk in marking seams E. Fitting F. Setting in sleeves G. Shrinkage of wool by steaming	Clothing Construction —Brown The Sewing Book —Hyde Dressmaking Made Easy —Baldt

Construction of wool and silk garments—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Demonstrate the shrinking of fullness in the hem of a wool dress.		Art in Home and Clothing —Trilling and Williams
	Pressing is especially important in the construction of wool and silk materials if one is to produce a neat tailored garment. What precautions must be observed to achieve satisfactory results?		The Well Dressed Woman —Rittenhouse Secrets of Distinctive Dress —Picken
Ability to judge the fit, becomingness, and skill of workmanship in the dress	Six of the girls have finished their dresses and will put them on for class criticism tomorrow. List the points on which the garments should be evaluated.		Principles of Correct Dress —Winterburn Score Card for Judging Clothing Selection and Construction

Accessories for the costume

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to select appropriate accessories to wear with the dress	Nearly everyone wears beads, rings, carries a handkerchief, purse, or some other accessory for the purpose of securing costume effect. Art principles should be applied here as well as in selection of color and design. List the points that should be considered for appropriate dress.	I. Accessories A. Appropriateness of 1. To occasion 2. To costume 3. To individual B. Becomingness C. Cost II. Importance of hat A. Adds attractiveness to face and figure B. Completes costume C. Acts as protection	Accessories Complete the Costume—State College of Wash., Pullman, Wash. Art Training Through Home Problems—Russell and Wilson

Nutrition and Family Meals

(Six to nine weeks)

Aims

1. Some ability in planning, preparing, and serving home dinners
2. A more definite understanding of the food requirements of healthy individuals of different ages
3. Appreciation of ways in which to reduce food costs
4. An understanding of the relation of food to the prevention and cure of deficiency diseases

Essentials of a satisfying meal

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Enjoyment of a meal at school which will stimulate interesting discussion in nutrition	Planning and preparation of meals were considered in the ninth grade. Other phases of the problem of feeding the family need to be considered. Suggest the problem to the class and allow them to plan and serve a dinner to themselves.	I. Review A. Menu planning B. Factors in the preparation of a meal C. Meal service	Dietetics for High Schools, Revised—Willard and Gillett Everyday Foods —Harris and Lacey Foods and Homemaking —Greer
Appreciation of the factors that make meals satisfying	After the meal has been served in family groups the students may analyze it in terms of their food needs. Did it satisfy hunger until	II. Satisfying meals A. Variety in texture and flavor B. Sufficient bulk C. Sufficient fat to prolong digestion	Feeding the Family, Revised—Rose Newer Knowledge of Nutrition—McCullum

	the next meal? What factors make a meal satisfying?		
Some ability to judge the energy value of usual servings of various foods	Determine whether the meal supplied enough calories. Would it have been satisfactory for the adult members of a family? If a student were ten pounds underweight, what changes should be made in the meal?	III. Caloric value of diet A. How determined B. When necessary to determine C. Comparative value of common food stuffs	Nutrition and Physical Fitness—Bogert Foundations of Nutrition—Rose Nutrition in Health and Disease—Cooper, Barber and Mitchell
Knowledge of needs for protein and ash constituents	Protein is needed for growth and repair. How may amount needed be determined? Evaluate a meal by these standards.	IV. Protein requirements A. Function of proteins B. Types of protein C. Amount needed D. Economical sources	Science in the Home—Ellis and Giles Nature's Spring Tonics—Montana Ext. Service
	Nutrition specialists advise that people should check on the supply of calcium, phosphorus and iron and if these are adequate the rest of the minerals will be present in sufficient quantity. Analyze the dinner to see if it was adequate in this respect.	V. Mineral requirements A. Minerals required B. Best sources C. Function D. Importance of some raw food	Food: Why? What? How?—American Nat'l Red Cross Vitamins in Food Materials—No. 84, U.S.D.A., 1929
		VI. Vitamins A. Kinds B. Sources	Food Stencil Models—Roberts

Essentials of a satisfying meal—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Knowledge of the sources and functions of vitamins	Make a food exhibit showing the richest sources of each vitamin and indicating its particular use in nutrition. Invite in other classes so that they may use the information. If certain vitamins were lacking in a diet what results could be expected?	C. Functions D. Forms of malnutrition resulting from lack of vitamins in the diet	Dietetics for High Schools, Revised—Willard and Gillett Nutrition and Physical Fitness—Bogert
Some ability to plan meals that will help prevent constipation	If some member of a family were bothered with constipation, how might the problem be met in meal planning?	VII. Constipation A. Common causes B. Corrective measures 1. High residue 2. Minerals, acids found in fruit 3. 8-10 glasses water daily 4. Correct exercise 5. Correct habits 6. Agar-agar, lactose, mineral oil	Nutrition in Health and in Disease—Barber, Cooper, Mitchell Feeding the Family—Rose Foundations of Nutrition—Rose Newer Knowledge of Nutrition—McCullum

Meals for children

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of food needs of young children	When meals are prepared at home, the needs of each member of the family have to be considered. Some small children refuse to eat vegetables that are included in the meal. What are some of the ways in which vegetables can be prepared for them so that they will like them?	I. Characteristics of meals for young children A. Easily digested B. Mild flavored C. Liberal amounts of milk, eggs, vegetables and fruits D. Small amount of meat E. Energy producing foods	Nutrition Work With Children—Roberts Modern Food Studies—Gillum National Dairy Council Bulletins Why Drink Milk—Folder No. 3, Children's Bureau Milk, the Growth Food for Health—Circ. 277, S. D. Extension Service
	If there is difficulty in getting the children to eat what they should, what principles that were learned in the child development unit should be practiced at family meals?	II. Use of milk in family A. Soups B. Custards and puddings C. Cereals cooked in milk D. Vegetables steamed or cooked in milk E. Meat baked in milk F. Beverages G. Frozen desserts H. Cottage cheese (made with junket to retain the calcium or if sour milk is used plan to use whey to provide the calcium)	
Ability to use milk in many ways	Some students say that they can not use up all the milk that the family is supposed to have, even when it is used for drinking. Have a milk-special dinner contest. After plans have been made, prepare and serve three or four milk dishes in class.		

Meat in the dinner menu

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to select and prepare meats for home dinners	Meat substitutes are usually used as the main dish for luncheons but meat is usually used in the dinner. Choose two cuts of meat frequently used in the home and prepare them for a dinner. How do tough and tender cuts compare in cost and in food value? Account for the differences necessary in the method of preparation. Visit meat market for a demonstration of cutting. Prepare meat in full size cuts for families in the community. The standard set up for a food budget is to spend not more than twenty cents of each food dollar for meat. Make suggestions for ways	I. Meat A. Place in the diet B. Food value C. Varieties D. Tender and tough cuts 1. Ways to prepare 2. Comparative cost E. Cost in relation to food value F. Buying by "cut" G. Foods to serve with meat H. Principles of cookery	Ten Lessons on Meat—National Livestock and Meat Board Meat: Its Selection and Preparation—Institute of American Meat Packers Cooking Beef According to Cut—Leaflet 17, U.S.D.A. Lamb as You Like It—Leaflet No. 28, U.S.D.A. Selection and Use of Bacon—Bulletin No. 232, Agr. Exp. Station, Univ. of Minnesota Notebook Size Meat Charts—Nat'l Livestock and Meat Board Large Meat Charts—Armour or Wilson Meat Packing Co.

	in which the less expensive cuts can be used, or "extend" meat in appetizing ways in dinner menus.		
Ability to prepare poultry	Have a class demonstration in drawing and dressing a fowl. The fowl may be used for demonstrating carving the next day.		
Interest in keeping down food costs	Let each group prepare a dinner using a different variety of meat. Consider the contribution of each in food value, flavor, and cost.	II. Review A. Marketing B. Care of food	Food Purchasing for the Home—Blinks and Moore The Market Basket—Mont. Ext. Service
Appreciation of a good source of iodine	Montana is in the goitre belt, and people are advised to eat salt-water fish occasionally. Account for the reason.	III. Fish A. Fresh B. Salt 1. Nutritional value	Fish as Food—F.B. 85 Why and How to Use Salt and Smoked Fish—Circ. 29, Bureau of Fisheries
Some judgment as to the best use of time in home baking	Considering cost, time, and the quality of the finished product make a study and try to decide whether it is advisable to make bread at home.	IV. Bread making A. Methods B. Variations C. Comparison with commercial product	Principles of Bread Making—No. 344, Colo. Agr. Exp. Station Home Baking—F.B. 1450
	Prepare breads suitable for family meals.		Cake Making in High Altitudes—Inglehart Bros., Evansville, Ind.

The dinner dessert

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to prepare suitable dinner desserts	The type of dessert chosen for the dinner will depend upon several factors. Determine what these are; then list the desserts with which the class feels that they need more help to insure good products for dinners at school or at home.	I. Dinner desserts A. Study of those that the class need help with 1. Cakes 2. Cookies 3. Pastry 4. Frozen desserts 5. Use of fruits	Ice Creams Frozen Without Stirring—Leaflet 49, U. S. D. A. Ice Cream Making and Appliances in the Home—National Ass'n of Ice Industries
	Since it is necessary to watch the cost of food and many people are afraid of gaining too much weight, suggest ways in which a dinner menu might be adjusted so that a dessert would not be necessary.	II. Points of emphasis for each food studied A. Preparation B. Standards for good products C. Suitability to menu D. Cost in terms of time to prepare E. Cost in terms of food value F. Suitability to all members of the family	Commercial recipe booklets Cookbooks Current magazine articles
Ability to prepare a dinner that will meet family needs	A family is large and the income is small. How can the daughter help her mother plan meals that will meet the food needs of all of the members of the family and keep the cost low? Emphasize management of time.	Review the essentials of menu planning in terms of a particular family	

More appreciation of the importance of management of time	Work out ways to simplify meal preparation and clearing away processes.	Review time schedules and the factors to be considered in good management of work	
Ability to choose the form of table service appropriate to the group and occasion	Considering the number in a particular family, the other work that has to be done, and the time that can be given to the meal, choose the form of table service that could be justified for this family. What form would be suitable for a company dinner for the officers of the P. T. A.	III. Types of table service A. Family service B. Compromise or English C. Russian D. Right vs. left hand service by the waitress E. Importance of simple service to fit family needs	Family Table Service—Niles, 1930 Table Service for Busy Families—Justin and Pittman Meal Planning and Table Service—Bailey Table Service and Decoration—Gunn Modern Food Studies—Gillum

Emergency meals

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Some ability to meet unexpected situations	In these days of auto travel, guests sometimes arrive unexpectedly, so it is well to have some supplies on an emergency shelf, and a few menus planned ready to extend the meal that may have been planned for the family. Make the plans which would help in case this problem arose when the student was doing a home project in meal planning. Some people seem to prepare their meals in more or less of an emergency fashion, all of the time. On what basis may this be justifiable? Prepare an emergency meal from supplies on the school emergency shelf.	I. Emergency shelf for A. Sickness B. Unexpected company C. Busy days D. Unforeseen disturbances II. Possible foods on the shelf A. Canned meat, fish, fruits, vegetables, milk and soup B. Crackers and cookies C. Salad dressing D. Olives, pickles, raisins, shelled nuts, maraschino cherries III. Dishes that might be prepared A. Quick breads B. Salads C. Creamed dishes D. Some casserole dishes E. Soups F. Baked dessert from condensed milk	Foods texts Cookbooks Recipe booklets

Health and Good Looks

(Two or three weeks)

(If the Red Cross or school nurse offers the Health Unit for the Red Cross Certificate, part or all of this unit will be omitted)

Aims

1. To realize that good health and good looks go hand in hand
2. To realize that all health habits affect our disposition which in turn influences appearance, ability, and personality
3. An appreciation of the positive health ideal and each person's responsibility to others in keeping well
4. Some ability to meet home responsibilities in case of illness in the home

The significance of good looks

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
A desire to make the most of one's native features	Not everyone can be pretty, but someone has said, "It is within the reach of everyone to be good looking". Make a list of the characteristics of a good looking person and see where it differs from a similar list for a pretty person. Suggest procedures by which native characteristics may be made to contribute	I. Factors making for good looks A. Well-groomed appearance B. Color and condition of skin C. Posture D. Abundance of energy E. Disposition F. The sparkling eye "Health is that abundance of life and vigor which is the happiness of life." G. Clean minds	Girl's Problems in Home Economics—Trilling and Williams Foods and Home Making—Greer, p. 465 On the Art of Being Charming—Lewis. Proctor and Gamble, Cincinnati Hitch-Hikers—Health Service of Cleanliness Institute, 45 E. 17th Street, New York City

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	as much as possible to good looks		The New Book of Etiquette—Eichler Personality—Spellman Etiquette—Post, Chapter on Grooming

Health habits for good looks

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Many people fall short in seeking to sell their services because they market their merchandise in unattractive wrappers. If girls are failing in this particular, what are some of the things they may do to remedy the situation?	I. Health habits in relation to good looks A. Care of the skin 1. Importance of cleanliness 2. Skin structure in relation to cleaning methods 3. Protection from chap 4. Use and removal of cosmetics 5. Standards for use of cosmetics	Care of the Complexion—Woman's Home Companion, 4c How to Apply Lipstick, Rouge, and Powder—Woman's Home Companion, 4c

Ability to practice healthful and inexpensive methods in the care of the face	The winds and very dry atmosphere in this country tend to make the skin harsh and dry. Consider the practices that will help keep the face and hands soft and in good condition.		
Appreciation of the importance of frequent bathing	When there is no bathroom, bathing is more difficult, but none the less important for health and good grooming. How many baths should be taken in a week and how can they be arranged if a tub bath is not possible?	B. Bathing 1. Purpose 2. Frequency 3. Types of baths 4. Baths and menstruation 5. Prevention of body odors 6. Use of deodorants	Health of the Family—No. 86. Fed. Board for Vocational Ed. Health Heroes Series—Metropolitan Life Insurance Co.
	Some students have to use very hard water. This presents a difficult problem. Water may be softened with a small bag of oatmeal.	C. Care of the hands 1. Prevention of chap 2. Simple manicure materials a. Cotton b. Toothpicks c. Salad oil d. Face powder for polish e. Prevention of hang nails 3. Importance of washing before handling foods	
	Smooth, clean hands are healthful as well as attractive. Work out a plan for keeping the hands in good condition.	D. Care of the hair and scalp 1. Massaging the scalp 2. Means of checking dandruff	Top Knots and Fuzz—Delineator Booklet
	Demonstrations in class give an opportunity for		Healthful Living—Williams

Health habits for good looks—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	much practical help to the students.	3. The shampoo a. Mild vs. strong soap b. Importance of several soapings c. Importance of rinsing d. Clean brush and comb e. Use of individual combs	
	Demonstrate home shampooing and drying, and follow by a consideration of becoming hair arrangement.		
An understanding of the relationship of exercise and posture to health and personal appearance	Many girls like to hike because they say it makes them feel so "peppy". Why should this exercise make them feel good? What other exercises contribute to health and good looks?	E. Exercise 1. Value of outdoor exercise 2. Kinds of exercise 3. Indoor exercise	Handbook on Positive Health—Woman's Foundation for Health
	Outline an attainable program for daily exercise, remembering that many home duties may be good exercise.		
	In clothing class criticism of garments, two or three girls were told that their dresses would be more becoming if they stood straighter. Posture means	F. Posture 1. An indication of body health 2. Exercise in relation to posture 3. Posture in relation to good looks	Posture Clinics No. 164—Children's Bureau

	much in terms of health. Have students study the postures of people sitting, standing, and walking, and of their own shadows. Work out standards to which each student should try to attain. "Are your shoes helping or hindering you in good posture?"	4. Posture standards for health and good looks 5. Relation of shoes and other clothing to good posture	Posture Exercises No. 165—Children's Bureau Exercise and Health No. 24—Children's Bureau, U. S. Dept. of Labor Low Heels 6 Days a Week —Circ. 452, U. of Nebraska See references on shoes in the 9th grade clothing unit
Keener appreciation of the part sleep and rest have in health and good looks	Some girls frown and look cross, or have dark circles under their eyes after they have stayed out late at a party. This does not add to their good looks. What are good standards to practice in relation to sleep for health and good looks?	G. Sleep and rest 1. Effect on body 2. Amount needed 3. Regularity 4. Conditions for good sleep 5. Value of brief relaxation period	General Principles of Constipation— Mont. Ext. Service
Further appreciation of food in relation to health and good looks	Vivacity was listed as one of the characteristics of a good looking girl. What may be one remedy for the listless girl to practice? Last year when weight charts were kept in the foods unit it was found that those in the class who were	H. Food habits 1. In relation to weight 2. In relation to digestion 3. In relation to constipation 4. In relation to good looks 5. In relation to good teeth	Dietetics for High School —Willard and Gillett Nutrition in Health and Disease—Cooper, Barber, Mitchell

Health habits for good looks—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	up to weight were the ones most seldom out of school because of colds or other sickness. List the reasons why this was probably true and work out the relationship to good looks.		

Meeting the emergency of sickness in the home

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Understanding of fact that a cold is a communicable disease and should be treated as such	“If you were caring for your mother, who was sick in bed with a cold, what precautions would you take to avoid catching the cold yourself?” Demonstrate to the class how to shake down, sterilize, and read the clinical thermometer.	I. Communicable diseases A. Causes of infection B. Channels of infection C. Precautions against infection	Home Care of the Sick —Selbert Everyday Problems in Science—Piper and Beauchamp Healthful Living —Williams

Ability to care for a patient that does not need professional care	A well-made bed means much for a patient's comfort. Learn how to make a bed that stays "made". Demonstration of bed making. Why is it important to have the lower sheet turned well under the head of the mattress and the top sheet well under the foot of the mattress? Demonstrate bed making with patient in bed. Demonstrate a bed bath, changing gown, adjusting pillows. Practice taking temperature, pulse, and respiration. Sometimes the doctor leaves medicine to be given. How can it be measured and given just as he directed? Should the time indicated for giving medicine be observed carefully?	II. Care of a patient A. Making bed B. Giving baths C. Caring for hair and teeth D. Making the patient comfortable 1. Adjusting pillows 2. Moving the patient 3. Improvising back rests and other appliances E. Taking pulse, respiration, and temperature F. Filling hot water bottles and ice bags G. Giving medicines H. Helping patient drink	Red Cross Manual Bulletins from State Board of Health, Helena, Mont.

Meeting the emergency of sickness in the home—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to keep a sick room clean and cheerful	How can a sick room be cleaned so that the dust will not annoy the patient, yet so that it is very clean? What would be the best ways in which to make a sick room cheerful without disturbing the patient?	III. Care of room A. Lighting B. Ventilating C. Cleaning D. Use of fumigants E. Flowers F. Books	
Ability to serve a suitable sick-room tray	Review work from foods unit. Set up a tray if little emphasis was put on liquid, soft, or semi-soft foods in the food work.		

First aid

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to give some first aid treatment in minor home emergencies	In the case of most emergencies, it is usually safest to send for a doctor at once. But if he is at considerable distance one should know what to do until he arrives. Work out what seems the best procedure for common minor injuries, then practice caring for such injuries. Plan a first aid kit for school and one that would be desirable to have for home use.	I. First aid treatment for A. Fainting B. Nosebleed C. Burns and scalds D. Cuts E. Poisons F. Foreign bodies in eye or throat G. Insect stings H. Sprains	Personal Hygiene and Home Nursing—Lippett Simple Nursing Procedure for High Schools—Pope Simplified Nursing—Dakin First Aid—Red Cross

The Home

Selecting, Furnishing, and Managing

(Six to eight weeks)

Aims

1. Some judgment in selection of a house to rent, or a building site, considering health, social and economic factors
2. An understanding of the importance of yard and house exterior appearance on individual and community standards of living
3. Some ability in using what is available to make the home more convenient and attractive
4. Some ability to help select and arrange attractive and inexpensive furnishings that will make the house more beautiful and homelike
5. Some judgment in the selection, arrangement and care of labor-saving equipment
6. Some ability to plan household activities, so that there will be leisure time

Choosing a home

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An apreciation of the real meaning of home An apreciation of cooperative work in making a home	Nearly all of the students live in comfortable homes which they take very much for granted. Let them ask their grandmothers what their childhood was like. Compare it with their own and work out the factors that are necessary to make up a home.	I. House vs. home A. Meaning of homemaking B. Responsibilities involved 1. Cooperation of all members of the family 2. Respect for rights, privileges and duties of all members C. Meaning of housekeeping	Home—Edgar Guest A Heap of Livin' —Edgar Guest Home—Van Dyke The Homemaker—Dorothy Canfield Fisher

Some ability to choose a house that is suitable for the needs of the family and within the family income	Mr. and Mrs. S., who have three children, two of school age, own a home worth $2,500.00. They have $1,500.00 in a savings account and a yearly income of $2,000.00. The old home is too small and is in a poor neighborhood and would cost $2,000.00 to remodel. Should they consider selling and renting, selling and buying, building another house, or remodeling?	II. Ownership A. Advantages 1. Stimulates saving 2. Develops responsibility 3. Stabilizes home life B. Disadvantages 1. Neighborhoods change 2. Workers transferred to other locations	Problems in Home Living—Justin and Rust Junior Home Problems—Kinyon and Hopkins Interior Decoration for the Small House—Amy Rolfe Manual of Homemaking—Van Rensselaer, Rose and Cannon The House and Its Care—Matthews The Business of the Household—Taber Better Homes and Gardens—Magazine Your Future Home—Small House Service Bureau, St. Paul, Minn.
Judgment as to what to consider when deciding whether to buy, build, or rent	If they buy, what plan can they use to secure enough money to finance the building? If it seems desirable for them to rent, how much should they pay? Make a survey of rents on local property. Interview some persons who are buying homes on partial payment plans.		

Choosing a home—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the necessity of carefully made house plans to make a conveniently arranged house	Take a field trip to learn types of neighborhoods and relative costs of homes, of vacant lots and of rents. What determines how many bedrooms a family should have? Many modern homes have no dining room. Is it necessary to have one in the Smith's home or not?	III. Financing building A. Bank loans B. Building and loan associations C. Terms concerned with ownership 1. Building regulations, restrictions, permits 2. Taxes 3. Deeds 4. Abstracts 5. Mortgages 6. Fees concerned with each	Selecting House Plans —Ford Better Homes in America Plan Book of Small Houses—Mont. Ext. Service
Some ability to select a house suited to the needs of the family and to the location	Mr. Smith wants to choose an English cottage, his wife wants a brick colonial, and the daughter prefers a Spanish stucco bungalow. Would any of these types meet the needs of the Smith family? How is suitability to a particular location determined? Would any of the above types be suitable for a specific family known by the class?	IV. The house A. Types of architecture 1. Types suited to the climate 2. Relationship of type to cost in building and operating 3. Suitability to site and neighborhood 4. Relation to number of rooms needed by the family B. Size of the house 1. Minimum number of rooms for healthful living 2. Desirable number for social and aesthetic needs	Domestic Architecture —Robinson

	Have the class take a field trip for the purpose of studying the types of houses, their suitability to the location (lot, neighborhood, country), the position of the house and other buildings on the lot, or on the farm, in relation to the highway.	3. Relation and arrangement of rooms a. Working area b. Social area c. Rest area d. Storage space in each area	The Relation of Housing to the Family—Ford, Better Homes in America Suggestions for Rural Home Planning—Mont. Ext. Service
Some ability to read and criticise house plans in terms of a family's needs	Read printed house plans. Analyze plans in terms of the needs of the families represented in the class.		

Home improvements

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
A study of the present home to determine what improvements may be made and the cost and labor required in making the changes	Compare the cost, convenience, and general satisfaction derived from the use of a heating stove, pipeless, hot air, steam, and gas furnaces. What types of lighting may be advisable if electricity is not available?	1. Possible improvements A. Kinds of heating systems 1. Efficiency 2. Cost of installation 3. Cost of operating B. Lighting systems 1. Electric 2. Natural gas 3. Delco	Operating the Home Heating Plant—F. B. 1194 Lighting the House—No. 405 Nat'l Lamp Works

Home improvements—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
	Many Montana homes can have running water from a nearby spring. What plumbing fixtures would be necessary and how much would they cost? If it were not possible to have running water, might it still be possible to have a sink with outside drain?	4. Gasoline a. Installation b. Cost of upkeep c. Efficiency C. Running water 1. Desirability of plumbing system 2. Ways to have running water where there is no plumbing system	Better Electric Lighting in the House—No. 47 National Lamp Works Lighting of Nebraska Rural Homes by Kerosene and Gasoline Lamps—No. 225, Univ. of Nebraska Domestic Water Supply on the Farm, Circ. 66, Mont. Exp. Station

Beautifying the Yard

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
An interest in improving the appearance of the home, keeping the yard orderly and making plantings	The yard and house exterior are the first greetings to friends and neighbors. If there are no trees in the yard, what can be done to make it attractive? What shrubs and flowers are adapted to this section of the country? What can be done in a dry land section where water is not available for flowers or shrubs?	I. Native trees and shrubs adapted to the locality A. Flowers and shrubs that require least care B. Cost of leveling, or hauling in good soil for lawn or flower beds C. Containers for rubbish and ashes D. Importance of orderliness in the yard	Growing Flowers for the Home—Mont. Ext. Service Beautifying the Homestead—F. B. 1132 Rural Planning: The Social Aspects—F. B. 1325

Room improvement

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Appreciation of the cost of furnishing a girl's room	Suppose a girl has been allowed five dollars for improving her room. What are the ways in which she might spend it to secure best results and greatest satisfaction?	I. Furnishing a bedroom A. Principles of decoration 1. Line 2. Color combinations 3. Rhythm 4. Balance 5. Proportion 6. Harmony	Room Improvements —Ext. Service, Pullman, Washington Painting Pictures and Furniture—Mont. Ext. Service
Ability to plan and select furnishings needed for a girl's room	The present arrangement of the home economics laboratory is only one of several possibilities. How might it be improved in convenience and appearance?	7. Emphasis B. Appropriateness 1. To individual 2. To room 3. To budget C. The furniture	Window Curtaining —F. B. 1633 Principles of Interior Decoration—Jakeway
Ability to choose furnishings that are appropriate to other rooms in the house	Apply these principles to the improvement of some room in the home.	1. Selection, determined by a. Use b. Relation to other furniture c. Relation to size of room d. Construction e. Original and upkeep cost	Art in Home and Clothing —Trilling and Williams Art in Everyday Life —Goldstein
Ability to arrange furnishings so that they will be convenient and conform to art principles	When there are children in the home, they should have their share of enjoyment of it. What arrangements that are entirely satisfactory to grown-ups will probably need to be adjusted for the children?	D. Floors and woodwork 1. Materials 2. Finishes 3. Color 4. Serviceability E. Walls 1. Art principles applied to color, and use of wall space	Floor Coverings—No. 170, Univ. of Me. Floor Coverings—Bulletin No. 87, Iowa State College Furniture, Floors and Finishes—New Hampshire Ext. Service

		F. Floor coverings 1. Types 2. Suitability 3. Cost 4. Arrangement	Floors and Floor Coverings—F. B. 1219 Coverings, A story of Floors—Armstrong Cork Company Principles of Window Curtaining—F. B. 1516 How to Make Draperies—Singer Sewing Machine Co. 25c Decorative Textiles— No. 102, Ext. Service, Ames, Iowa Artistic Windows—No. 73, Iowa Ext. Service
Ability to renovate some piece of old furniture	Renovate pieces of furniture from students' homes. Repair stools, chair seats; painting or refinishing. Paint cupboards, bookshelf, or unfinished table for school. Slip covers may be made to cover a badly worn piece of upholstered furniture.	II. Renovation of furniture A. Removal of old finish B. Suitable refinishes C. Repair of upholstered pieces D. Slip covers E. Reseating chairs	A New Touch on Old Furniture—Maryland Ext. Service Renovation of Household Furnishings—No. 117 U. of Minn. Ext. Service Repairing Upholstered Furniture—Circ. 98, Univ. of Maine

Room improvement—(Continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to select and arrange pictures and other decorative accessories	Some rooms have a hotel appearance; that is, they are cold and formal looking, as if they belonged to no one; while others express individuality and coziness. What can be done to a room to make it appear more homey and individual? Emphasize relationship between beauty and usefulness. Show decorative value of household articles such as earthen bean pots, etc. Suggest beauty of hand-woven materials for wall hangings.	III. Decorative accessories A. Pictures 1. Appropriateness 2. Framing 3. Hanging B. Lamps C. Textile wall hangings D. Cushions E. Pottery	Refinishing Furniture —Mont. Ext. Service Pictures for the Home—No. 48, Iowa Ext. Service

Management in the home

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Increased skill in conserving time and energy through choice of labor-saving equipment	Draw plan of kitchen at home. Rearrange, considering order of work and convenience. Study labor-saving equipment to determine wherein it is labor-saving. Make plans for most convenient storage of cleaning equipment.	I. Working equipment A. Equipment needed for 1. Preparing and caring for food 2. Cleaning the house 3. Laundering B. Arrangement 1. Right- or left-handed work 2. Order of process of the job 3. Compact grouping 4. Height of working surfaces C. Construction 1. Efficiency 2. Ease of cleaning 3. Cost of running 4. Cost in relation to use D. Repair of equipment 1. Electric cords 2. Faucets 3. Sink drains 4. Sewing machine belts 5. Pressure cooker valves	Household Engineering—Frederick Housewifery—Balderston Marketing and Housework—Donham Care of the Home—Clark The House and Its Care—Matthews The Business of the Household—Taber Simple Plumbing Repairs in the Home—F. B. 1460
Ability to arrange working equipment conveniently	Determine ways by which to find the most comfortable height for working surfaces.		
Ability to make simple home repairs	The cord on the electric iron in the clothing laboratory is loose at the wall plug. Is it necessary to buy a new cord or can it be repaired and how? The hot water tap in the foods laboratory has been leaking for several days. How may it be repaired?		

Management in the home—(continued)

Outcomes	Suggestions for Problems and Activities	Factors for Solution of Problems	Reference and Illustrative Material
Ability to make and use a schedule for home work	To some people cleaning and keeping a house running smoothly are tiresome tasks. To others these are matters of a few hours each week. Observe homes and find out what makes the difference. Mrs. Smith's mop is kept in the cellar way; the dustmop on the porch; the vacuum cleaner behind the pantry door; and the furniture polish on top of the cupboard. What plan may be made for greater convenience in this home?	II. Management of home A. Requirements for profession of homemaking 1. Cooperation 2. Managerial ability 3. Judgment 4. Skill 5. Training B. Organization of housekeeping 1. Daily tasks a. Kinds b. Equipment needed c. Cost and upkeep 2. Weekly tasks Relation to daily tasks 3. Seasonal tasks a. Kinds b. Best performance c. When is extra help needed 4. Occasional tasks a. Remodeling b. Entertaining guests	Business of the Household —Taber The Homemaker and Her Job—Gilbreth A Girl's Problem in Home Economics—Trilling and Williams Housewifery—Balderston House Cleaning Made Easier—F. B. 1180 Laundering—Balderston The Well-Planned Kitchen —U. S. D. A. Circ. 189
Ability to adjust time schedules to meet unexpected situations	Make time studies for various tasks. Work to reduce performance time. Make a schedule for work performed daily, or weekly. See if this can be improved upon. How might it have to be changed if there were children in the home?		

IX. Bibliography

*Indicates most inclusive books

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U. S. Department of Agriculture, Washington, D. C.
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Consumer's Club, 2 West 43rd Street, New York
  Scientific Buying
Committee on Economic Standards of the New York Nutrition Council, New York
  Good Nutrition and Adequate Food Allowances for the Family
General Federation of Women's Clubs, 1734 N Street, N. W., Washington, D. C.
  The Woman Buyer

D. Books on child development

*Faegre and Anderson, Child Care and Training. University of Minnesota Press, Minneapolis

*Justin and Rust, Problems in Home Living, Section III. J. B. Lippincott Company, Philadelphia

Goodspeed and Johnson, Care and Training of Children. J. B. Lippincott Company, Philadelphia
Strang, An Introduction to Child Study. The Macmillan Company, San Francisco
Cleveland, Training the Toddler. J. B. Lippincott Company, Philadelphia
Groves, Wholesome Childhood. Houghton Mifflin Company, Boston
Roberts, Nutrition Work With Children. University of Chicago Press, Chicago
Patri, Problems of Childhood. D. Appleton and Company, New York
Blanton and Blanton, Child Guidance. The Century Company, Chicago
Blatz and Bott, Parents and the Pre-School Child. William Morrow and Company, New York
Burnham. The Normal Mind. D. Appleton and Company, New York
Myers, The Modern Parent. Greenberg, Publisher, Inc., 160 Fifth Avenue, New York
Bryant, How to Tell Stories to Children. Houghton Mifflin Company, Boston. (Excellent Bibliography)
Bailey, The Story Teller. Milton Bradley Company, San Francisco

E. Bulletins on child development

Kansas State Agriculture College, Division of Home Economics, Manhattan, Kansas
    Bulletin No. 2. 25 cents. Applying Nursery School Methods of Child Training in the Home
Children's Bureau, U. S. Department of Labor, Washington, D. C.
    Are You Training Your Child to Be Happy? No. 202
    Child Management. Thom. No. 143. 1925
    No. 143. Disobedience, Lying, Stealing, Environment, 1926
    Why Sleep? 1929
    Bulletin No. 8. Infant Care. Revised 1930
    No. 30. Child Care: The Pre-school Age
National Committee for Mental Hygiene, Inc., 370 Seventh Avenue, New York
    Habit Training for Children
    Does Your Child Have Temper Tantrums?
    Obedience
Child Study Association of America, 54 West 74th Street, New York
    Truthfulness. 10 cents
    Obedience. 10 cents
    Punishment. 10 cents
Child Study Association, 509 West 121st Street, New York
    The Child's First Book. 30 cents
Leonard, Minnetta S., 2230 Van Hise Avenue, Madison, Wisconsin
    Best Toys for Children
Bureau of Educational Experiments, 144 West 13th Street, New York
    Playthings, No. 1
U. S. Department of Agriculture, Washington, D. C.
    Good Food Habits for Children. Leaflet No. 42
American Child Health Association, 370 Seventh Avenue, New York
    Health Posters
    Signs of Health in Childhood
    Child Health Alphabet
Elizabeth McCormick Memorial Fund, 848 N. Dearborn Street, Chicago
    Score Card for Parents and Children. Hedger
    What Milk Will Do for Your Child
    Bulletins on Cereals and Vegetables
National Dairy Council, 307 N. Michigan Avenue, Chicago
    Health Posters
Catalogues
    Educational Playthings, Inc., 20 E. 69th Street, New York
    Schoenut Company, East Hagert and Seporia Streets. Philadelphia
    Holgate Company, Kane, Pennsylvania (Jenny Blocks)
    May Fair Playthings Store, 9 East 57th Street, New York
List of Books and Publishers for the Pre-School Child
    American Library Association, 520 North Michigan Avenue, Chicago
    Winifred Hanley, Merrill-Palmer School, Detroit, Michigan
    Children's Singing Games, Old and New. Hofer. A. Flanagan Company, Chicago
    Twice 55 Games With Music. C. C. Birchard and Company, Boston

F. Books on clothing units

1. Clothing: Selection, construction and care

Baker, Clothing Selection and Purchase. The Macmillan Company, San Francisco
*Rathbone and Tarpley, Fabrics and Dress. Houghton Mifflin Company, Boston. 1931

*Baldt and Harkness, Clothing for the High School Girl. Houghton Mifflin Company, Boston
*Russell and Wilson, Art Training Through Home Problems. Manual Arts Press, Peoria, Illinois
Butterick, Principles of Clothing Selection. Revised. The Macmillan Company, San Francisco
Trilling and Williams, Art in Home and Clothing. J. B. Lippincott Company, Philadelphia
Trilling and Williams, A Girl's Problems in Home Economics. J. B. Lippincott Company, Philadelphia
Baldt, Clothing for Women. Revised. J. B. Lippincott Company, Philadelphia
Woolman, Clothing: Choice, Care and Cost. J. B. Lippincott Company, Philadelphia
Gillum, Color and Design. Lulu W. Gillum, 4801 Independence Avenue, Kansas City, Missouri
Gillum, Color Secrets. Lulu W. Gillum, 4801 Independence Avenue, Kansas City, Missouri
*Goldstein, Art in Everyday Life. The Macmillan Company, San Francisco
Dooley, Style and Clothing. D. C. Heath and Company, Chicago
Brown and Others, Clothing Construction. Ginn and Company, Chicago
Jordan, Clothing: Fundamental Problems. M. Barrows and Company, Boston
Rittenhouse, The Well Dressed Woman. Harper and Brothers, New York
Picken, Secrets of Distinctive Dress. Rand McNally and Company, San Francisco
Winterburn, Principles of Correct Dress. Harper and Brothers, New York
DeGarmo, Essentials of Design. The Macmillan Company, San Francisco
Hubbard, The Instructor in Garment Cleaning. National Association of Dyers and Cleaners, St. Louis, Missouri

2. Textiles

*Small, How to Know Textiles. Ginn and Company, Chicago
Dyer, Textile Fabrics. Houghton Mifflin Company, Boston
Sage, Textiles and Clothing. Charles Scribner's Sons, New York
Bray, Textile Fibers, Yarns, Fabrics. Webb Book Publishing Company, St. Paul
Denny, Textiles and How to Know Them. J. B. Lippincott Company, Philadelphia
Woolman and McGowan, Textiles. The Macmillan Company, San Francisco
McGowan and Waite, Textiles and Clothing. Revised. The Macmillan Company, San Francisco

3. Clothing budgets

*Friend, Earning and Spending the Family Income. D. Appleton and Company, New York
*Taber and Wardell, Economics of the Family. J. B. Lippincott Company, Philadelphia
*Justin and Rust, Problems in Home Living. J. B. Lippincott Company, Philadelphia
Frederick, Christine, Selling Mrs. Consumer. Business Course Company, New York
Baldwin, Wm. H., The Shopping Book. The Macmillan Company, San Francisco
Taber, C. W., Business of the Household. J. B. Lippincott Company, Philadelphia
Lord, Getting Your Money's Worth. Harcourt, Brace and Company, New York

G. Bulletins on clothing units

Farmers' Bulletins, U. S. Department of Agriculture, Washington, D. C.
  The Textiles We Buy and Use. No. 1449
  Leather Shoes: Selection and Care. No. 1523
  Removal of Stains From Clothing and Other Textiles. No. 861
  Stain Removal from Fabrics. Home Methods. No. 1474
  Children's Rompers. No. 11
  Sun Suits for Children. No. 24
  Selection of Cotton Fabrics. Ruth O'Brien. No. 1449. 1926
  Methods and Equipment for Home Laundering. No. 1497. 1926
  Fitting Dresses and Blouses. No. 1530
  Score Card for Judging Clothing Selection and Construction. Miscellaneous Circular 90
  Suits for the Small Boy. Leaflet 52
  Dresses for Little Girls. Leaflet 26
  Play Suits for Winter. Leaflet 54
Montana Extension Service Bulletins. Bozeman, Montana
  Rayon. Leaflet
  Clothing: Care, Repair, Renovation
  Clothes Closets

- Iowa Extension Service. Ames, Iowa
    - Hose: Selection and Care
    - Home Dyeing. Bulletin No. 43
    - Clothes for Little Folk. Bulletin No. 39
- Recent Magazine Articles
    - Underwear and Health. Hygeia, July, 1928
    - Shoes and Feet for Good Understanding. Practical Home Economics, May, 1930
- Wisconsin Extension Service. University of Wisconsin, Madison, Wisconsin
    - Good Fitting Shoes for Every Member of the Family. Circular No. 191
    - Making Clothes Last Longer. Circular 113
    - New Clothes at Small Cost
- Idaho Extension Service. Boise, Idaho
    - Children's Clothing
- Maine Extension Service. University of Maine, Orono, Maine
    - Shoes for Health. Circular 93
- Missouri Extension Service. Columbia, Missouri
    - Selection and Care of Shoes and Hose. Circular 202
- Utah Extension Service. Logan, Utah
    - Feet and Shoes. Circular 10. 1929
- University of Illinois Extension Service. Champagne, Illinois
    - The Textiles We Buy and Use. Bulletin 47
- Texas Extension Service. Texas State College for Women, Denton, Texas
    - Appropriate Dress for High School Girls. Spellman
- Singer Sewing Machine Company, New York
    - Singer Sewing Machine Manual
    - Short Cuts to Home Sewing
    - Singer Sewing Machine Company Wall Charts
    - "Modern Cinderella" (film)
    - How to Make Children's Clothes
- Metropolitan Life Insurance Company, New York
    - Foot Health
- Wm. Filene Sons, Boston, Massachusetts
    - Clothing Budgets and How to Use Them
- State College of Washington, Pullman, Washington
    - Accessories Complete the Costume
- Fairchild News Service, 8 East 18th Street, New York
    - The Ages of Women
    - Apparel and Costume Accessories
- Woman's Institute, Scranton, Pennsylvania
    - Fitting for Style and Individuality
- Viscose Company, 171 Madison Avenue, New York
    - The Story of Rayon
- Textile Division, U. S. Department of Commerce, Washington, D. C.
    - Cotton Fabrics and Their Uses. 5 cents
- Agricultural Extension Division. University Farm, St. Paul, Minnesota
    - Textiles. Weller. Special Bulletin No. 15
- Extension Service. University of Nebraska, Lincoln, Nebraska
    - Fabrics: How to Know Them. Extension Circular No. 401. 1927
- United States Government Printing Office, Washington, D. C.
    - The Changing Uses of Textile Fibers in Clothing and Household Articles. Clark
    - Miscellaneous Publication No. 31, October, 1928
- Miscellaneous
    - Samples of Personal Account Books

H. Books on family and social relationships

1. General

- *Bomar, An Introduction to Homemaking. J. B. Lippincott Company, Philadelphia
- *Coss, Girls and Their Problems. Ginn and Company, Chicago
- *Justin and Rust, Problems in Home Living. J. B. Lippincott Company, Philadelphia
- Bomar, Social Aspects of Homemaking. J. B. Lippincott Company, Philadelphia
- Spencer, The Family and Its Members. J. B. Lippincott Company, Philadelphia
- Dodd, Fiber and Finish. Ginn and Company, Chicago
- Wadsworth, Charm by Choice. Woman's Press, New York
- Stewart and Hann, Adventures in Citizenship. Ginn and Company, Chicago
- Conde, Bertha, The Business of Being a Friend. Woman's Press, New York
- Groves, Social Problems of the Family. J. B. Lippincott Company, Philadelphia
- Popenoe, The Conservation of the Family. Williams and Wilkins Company, Baltimore
- *MacDonald, Elizabeth, and Forrester, Homemaking, A Profession for Men and Women. Marshall Jones Company, Boston
- Goodsell, Family as a Social and Educational Institution. The Macmillan Company, San Francisco

Ferris, This Happened to Me. E. P. Dutton and Company, New York
Fisher, Dorothy Canfield, The Bent Twig; The Homemaker; Understood Betsy. Harcourt, Brace and Company, New York
Gibson, On Being a Girl. The Macmillan Company, San Francisco
Richards, The Art of Right Living. M. Barrows and Company, Boston
Taber, C. W., Business of the Household. J. B. Lippincott Company, Philadelphia
Smith, Games and Recreational Methods. Dood, Mead and Company, Inc., New York
Sumner, The Science of Society. Yale University Press, New Haven, Connecticut
Hinkley, Jane, Suggested Outline for Content of Course in Social and Family Relationships. Bulletin Clerk, College of Agriculture, Lincoln, Nebraska. 15 cents

2. Fiction and additional books on family relationships for high school girls

Wiggin, Kate Douglas, Mother Carey's Chickens. Houghton Mifflin Company, Boston
Haley, Mary M., A Dornfield Summer. Little, Brown and Company, Boston
Taggart, M. A., The Little Grey House. Doubleday, Doran and Company, Garden City, New York
Taggart, M. A., Daughters of the Little Grey House. McClure's Magazine, New York
Cutting, Mary Stewart, Heart of Lynn. J. B. Lippincott Company, Philadelphia
Haines, Luck of the Dudley Grahames. Henry Holt and Company, Inc., New York
Deland, Oakleigh. Harper and Brothers, New York
Fisher, Dorothy Canfield, Rough Hewn. Harcourt, Brace and Company, New York. (Brimming Cup, Sequel to Rough Hewn, for older girls)
Ashmun, M., Including Mother. The Macmillan Company, San Francisco
Taylor, Katharine H., Real Stuff. Harcourt, Brace and Company, New York
Tarkington, Alice Adams. Doubleday, Doran and Company, Garden City, New York
Brown, Journey's End. Lothrop, Lee and Shepard Company, Boston
Alcott, Louisa, Little Women. Little, Brown and Company, Boston
Montgomery, L. M., Anne of Green Gables. Doubleday, Doran and Company, Garden City, New York
Norris, Kathleen, Mother. Grosset and Dunlap Company, New York
Waterman, Nixon, Girl Wanted. B. C. Forbes Publishing Company, New York
Quick, J. H., The Brown Mouse. The Bobbs-Merrill Company, Indianapolis
Ferber, Edna, So Big. Doubleday, Doran and Company, Inc., Garden City, New York
Montgomery, Anne of Avonlea. Doubleday, Doran and Company, Inc., Garden City, New York
Montgomery, Chronicles of Avonlea. Doubleday, Doran and Company, Inc., Garden City, New York
Wiggins, Kate Douglas, Polly Oliver's Problem. Houghton Mifflin Company, Boston
Merz, Heinrich, Louise, Queen of Prussia. McClure's Magazine, New York
Antin, Mary, The Promised Land. Houghton Mifflin Company, Boston
Hasbrouck, L. S., Hall With Doors. Woman's Press, New York
Patri, Child Training. D. Appleton and Company, New York
Abel, Successful Family Life on the Moderate Income. J. B. Lippincott Company, Philadelphia
Abbott, The Home Builder. Houghton Mifflin Company, Boston
Gulick, The Efficient Life. Doubleday, Doran and Company, Inc., Garden City, New York
Drummond, The Greatest Thing in the World. Dodge Publishing Company, New York
Love. Good Housekeeping. October, 1928
Gum Chewing and the Graces. Hygeia. October, 1928
Requirements of Good Group Relations. Journal of Home Economics. August, 1928
Anonymous, The Log Cabin Lady. Little, Brown and Company, Boston

I. Books on foods units

1. Desirable classroom reference texts

*Harris and Lacey, Everyday Foods. Houghton Mifflin Company, Boston
*Greer, Foods and Homemaking. Allyn and Bacon, San Francisco
Bailey, Foods: Preparation and Serving. Webb Publishing Company, St. Paul, Minnesota
*Lenman, McKay, Zuill, The Family's Food. J. B. Lippincott Company, Philadelphia

2. Food study

Monroe and Stratton, Food Buying and Our Markets. M. Barrows and Company, Boston
*Blinks and Moore, Food Purchasing for the Home. J. B. Lippincott Company, Philadelphia
Gillum, Modern Food Studies. Lulu W. Gillum, 4801 Independence Avenue, Kansas City, Missouri
*Halliday and Noble, Hows and Whys of Cooking. University of Chicago Press, Chicago
McLeod and Nason, Chemistry and Cookery. McGraw-Hill Book Company, New York
Sherman, Food Products. The Macmillan Company, San Francisco
Robinson and King, Learning Exercises in Food and Nutrition. D. C. Heath and Company, Chicago
Richards, Ellen H., Cost of Food. John Wiley and Sons, Inc., New York
Todoroff, What Is What in Groceries. Grocery Trade Publishing Company, Chicago
Van Arsdale, Monroe, Barber, Our Candy Recipes. The Macmillan Company, San Francisco
Bookmeyer, Candy and Candy Making. Manual Arts Press, Peoria, Illinois
Phi Upsilon Omicron, High Altitude Recipes. University of Wyoming, Laramie
Farmer, Catering for Special Occasions. Boston Cooking School Magazine, Boston
Allen, Choice Recipes for Clever Cooks. Boston Cooking School Magazine, Boston
Bell Recipe File. Iowa State College, Ames, Iowa
Richards and Treat, Quantity Cookery. Boston Cooking School Magazine, Boston

3. Table service

Niles, Family Table Service. University of Minnesota, Minneapolis
*Bailey, Meal Planning and Table Service. Manual Arts Press, Peoria, Illinois
Gunn, Table Service and Decoration. J. B. Lippincott Company, Philadelphia

4. Nutrition

Bogert, Nutrition and Physical Fitness. W. B. Saunders Company, Philadelphia
McCullum, Newer Knowledge of Nutrition. Boston Cooking School Magazine, Boston
Cooper, Barber and Mitchell, Nutrition in Health and Disease. J. B. Lippincott Company, Philadelphia
Rose, Foundations of Nutrition. The Macmillan Company, San Francisco
Ellis and Giles, Science in the Home. John Wiley and Sons, Inc., New York
*Roberts, Nutrition Work With Children. University of Chicago Press, Chicago
Williams, Healthful Living. The Macmillan Company, San Francisco
*Willard and Gillette, Dietetics for High Schools. Revised. The Macmillan Company, San Francisco
*Rose, Feeding the Family. Revised. The Macmillan Company, San Francisco
Food: Why? What? How? American National Red Cross, Washington, D. C.

5. Food preservation

*Malcolm, Ola Powell, Food Preservation. J. B. Lippincott Company, Philadelphia
*Johnson, Bacteriology of the Home. Manual Arts Press, Peoria, Illinois
Hunter and Whitman, Civic Science in the Home and Community. American Book Company, Chicago
Conn, Bacteria, Yeast and Molds. Ginn and Company, Chicago
Chenoweth, Food Preservation. John Wiley and Sons, Inc., New York

J. Bulletins on foods units

1. Farmers' bulletins. (United States Department of Agriculture, Washington, D. C.)

Canning Fruits and Vegetables at Home. No. 1471
Farm and Home Drying of Fruits and Vegetables. No. 984
Home Canning of Fruits and Vegetables. No. 1211
Canned Fruits, Preserves and Jellies. No. 203
Standard Containers for Fruits and Vegetables. No. 1196
Home Storage of Vegetables. No. 879
Convenient Kitchens. No. 1513
Milk: The Indispensable Food for Children. No. 163
Milk and Its Uses in the Home. No. 1359
Eggs and Their Uses as Foods. No. 128
Eggs at Any Meal. No. 39
A Week's Food for an Average Family. No. 1228
House Rats and Mice. No. 896
Cockroaches. No. 658
House Flies. No. 679
School Lunches. No. 712

- Food for Young Children. No. 717
- Home Baking. No. 1450
- Fish as Food. No. 85

2 Circulars and leaflets

- A Guide to Good Meals for the Junior Homemaker. Circular 49. U. S. Department of Agriculture, Washington, D. C.
- Good Food Habits for Children. Leaflet No. 42. U. S. Department of Agriculture, Washington, D. C.
- Vitamins in Food Materials. No. 84. U. S. Department of Agriculture, Washington, D. C. 1929
- Why Drink Milk? Folder 3. Children's Bureau, Department of Labor, Washington, D. C.
- Cooking Beef According to Cut. Leaflet 17. U. S. Department of Agriculture, Washington, D. C.
- Lamb as You Like It. Leaflet No. 28. U. S. Department of Agriculture, Washington, D. C.
- Make a Little Meat Go a Long Way. Leaflet No. 5. Department of Agriculture, Washington, D. C.
- Planning Your Family Expenditures. Circular 68. U. S. Department of Agriculture, Washington, D. C.
- Why and How to Use Salt and Smoked Fish. Circular 29. Bureau of Fisheries, Department of Commerce, Washington, D. C.
- Ice-Creams Frozen Without Stirring. Leaflet 49. U. S. Department of Agriculture, Washington, D. C.
- Analysis of Canned Peas and Beans Showing Composition of Different Grades. No. 54. Bureau of Chemistry, Department of Agriculture, Washington, D. C.
- Montana Extension Service. Bozeman, Montana
  - Nature's Spring Tonics
  - The Market Basket
  - Nutrition Hand Book. No. 62
  - Eggs. Recipes for Appetizing Dishes
  - The Kitchen
- University of Illinois Extension Service, Champagne, Illinois
  - Steam Pressure Cooker. Bulletin No. 17
- Colorado Agricultural Extension Service, Fort Collins, Colorado
  - Principles of Bread Making. No. 344
  - Baking Flour Mixtures at High Altitudes. Peterson. No. 365
  - Principles of Making Fruit Jelly. Bulletin No. 289
  - Serving the Family Meal. Bulletin 227A
  - Serving in Large Quantities, One-Dish Meals, Planning the Family Meal
- University of Minnesota, Minneapolis
  - Selection and Use of Bacon. Bulletin 232
- North Dakota Extension Service, North Dakota State College, Fargo, North Dakota
  - Jellies, Jams, Marmalades and Pickles. Bulletin No. 64
- Nebraska Extension Service, Lincoln, Nebraska
  - Canning Fruits and Vegetables at Home. Bulletin No. 983
- Connecticut Extension Service, Storrs, Connecticut
  - Canning Budget. Bulletin No. 53
- College of Agriculture, Berkeley, California
  - Oven Temperature Chart
- Household Refrigeration Bureau, 51 Chambers Street, New York
  - How to Use a Good Refrigerator
  - Cold Is the Absence of Heat
- American Stove Company, Cleveland, Ohio
  - A Food Preparation Study by Dorothy Shank
  - The Oven Load
- Cornell University, Ithaca, New York
  - How to Carve Chicken or Turkey
  - Decorative Use of Flowers. No. 87
- Arkansas Extension Service, Little Rock, Arkansas
  - Canning Budget for Family of Five for Six Months
- Extension Service, State College, Pennsylvania
  - Vegetables and Meat in the Home. No. 124
- Kerr Canning Company, Sand Springs, Oklahoma
  - Questions and Answers on Canning
- Great Western Sugar Company, Denver, Colorado
  - Sugar Bowl Series. Vol. VI
- Journal of Home Economics. Vol. 10
  - Kitchen Tests for Pectin in Jelly Making. Denton
- National Livestock and Meat Board, 407 Dearborn Street, Chicago
  - Ten Lessons on Meat
  - Notebook Size Meat Charts
- Armour or Wilson Meat Packing Company, Department 60, Union Stock Yards, Chicago
  - Larger Meat Charts
  - Liver in the Daily Diet
  - Appetizing Meat Dishes
- Institute of American Meat Packers, 509 S. Wabash Avenue, Chicago
  - Meat—Its Selection and Preparation
- Inglehart Brothers, Evansville, Indiana
  - The Swans Down Cake Manual

National Association of Ice Industries, 163 West Washington Street, Chicago
  Ice-Cream Making and Appliances in the Home
State Board for Vocational Education, Topeka, Kansas
  Table Service for Busy Families
Postum Company, Battle Creek, Michigan
  A Plan for the Day's Choice of Food
State Board for Vocational Education, Madison, Wisconsin
  A Short Unit Course in Marketing. 65 cents
Proctor and Gamble, Cincinnati, Ohio
  School Lunches. No. 10
National Canner's Association, Washington, D. C.
  Vitamins in Canned Food
  Nutritional Aspects of Canned Foods
  The Nutritive Value of Canned Foods
University of Chicago Press, Chicago
  Food Stencil Models. Roberts
Oregon Agricultural College, Corvallis, Oregon
  Simplified Table Service
A. and M. College, Stillwater, Oklahoma
  Table Service. Bulletin No. 171
Home Service Department, Washburn Crosby Company, Minneapolis
  Directions for Making a Standard American Loaf of Bread
Fisher Flour Mills Company, Seattle, Washington
  Walker's Method of Easy Bread Making
Health Pamphlets. Metropolitan Life Insurance Company, New York

K. Books on health and home nursing

Trilling and Williams, A Girl's Problems in Home Economics. J. B. Lippincott Company, Philadelphia
*Handbook on Positive Health. Woman's Foundation for Health, New York
Williams, Healthful Living. The Macmillan Company, San Francisco
Willard and Gillett, Dietetics for High Schools, Revised. The Macmillan Company, San Francisco
Cooper, Barber, Mitchell, Nutrition in Health and Disease. J. B. Lippincott Company, Philadelphia
Selbert, Home Care of the Sick. W. B. Saunders Company, Philadelphia
Pieper and Beauchamp, Everyday Problems in Science. The Macmillan Company, San Francisco
Lippett, Personal Hygiene and Home Nursing. World Book Company, Chicago
*Pope, Simple Nursing Procedure for High Schools. G. P. Putnam's Sons, New York
Dakin, Simplified Nursing. J. B. Lippincott Company, Philadelphia
*Delano, American Red Cross Textbook on Home Nursing and Care of the Sick. P. Blakiston's Sons, New York

L. Bulletins on health and home nursing

Children's Bureau, U. S. Department of Labor, Washington, D. C.
  Posture Clinics. No. 164
  Posture Exercises. No. 165
  Exercise and Health. No. 24
University of Nebraska Extension Service, Lincoln, Nebraska
  Low Heels Six Days a Week. Circular 452
Montana Extension Service, Bozeman, Montana
  General Principles of Constipation
  Home Care of the Sick
Health Service of Cleanliness Institute, 45 East 17th Street, New York
  Hitch-Hikers
Proctor and Gamble Company, Cincinnati, Ohio
  On the Art of Being Charming
Metropolitan Life Insurance Company, New York
  Health Heroes Series
State Board of Health, Helena, Montana
  Bulletins on Health
  First Aid
Magazine Articles
  Care of the Complexion. Woman's Home Companion Leaflet. 4 cents
  How to Apply Lipstick, Rouge and Powder. Woman's Home Companion Leaflet. 4 cents
  Top Knots and Fuzz. Delineator Booklet

M. Books on the home

*Russell and Wilson, Art Training Through Home Problems. Manual Arts Press, Peoria, Illinois
*Trilling and Williams, Art in Home and Clothing. J. B. Lippincott Company, Philadelphia
*Goldstein, Art in Everyday Life. The Macmillan Company, San Francisco
*Justin and Rust, Problems in Home Living. J. B. Lippincott Company, Philadelphia
Rolfe, Interior Decoration for the Small House. The Macmillan Company, San Francisco
*Matthews, The House and Its Care. Little, Brown and Company, Boston
Trilling and Williams, A Girl's Problems in Home Economics. J. B. Lippincott Company, Philadelphia

- Jakeway, Principles of Interior Decoration. Webb Publishing Company, St. Paul, Minnesota
- Robinson, Domestic Architecture. The Macmillan Company, San Francisco
- Gray, House and Home. Webb Publishing Company, St. Paul, Minnesota
- Balderston, Housewifery. J. B. Lippincott Company, Philadelphia
- Balderston, Laundering. J. B. Lippincott Company, Philadelphia
- Van Rensselaer, Rose and Cannon, Manual of Homemaking. The Macmillan Company, San Francisco
- Donham, Marketing and Housework. Little, Brown and Company, Boston
- Gilbreth, The Homemaker and Her Job. D. Appleton and Company, New York
- Kinyon and Hopkins, Junior Home Problems. Benj. H. Sanborn and Company, Chicago

N. Bulletins on the home

- Montana Extension Service, Bozeman, Montana
  - Storage Space in the Home
  - Plan Book of Small Houses
  - Painting Pictures and Furniture
  - Refinishing Furniture
  - Suggestions for Rural Home Planning
  - Domestic Water Supply on the Farm, Circular 66
  - Growing Flowers for the Home
- Iowa Extension Service, Ames, Iowa
  - Pictures for the House. No. 48
  - The Step Saving Kitchen. No. 47
  - Floor Coverings. Bulletin No. 87
  - Decorative Textiles. Bulletin No. 102
  - Artistic Windows. Bulletin No. 73
- Maryland Extension Service, College Park, Maryland
  - A New Touch on Old Furniture
- New Hampshire Extension Service, Durham, New Hampshire
  - Furniture, Floors and Finishes
- University of Maine, Orono, Maine
  - Floor Coverings. Bulletin No. 170
  - Repairing Upholstered Furniture. Circular No. 98
- Washington State College Extension Service, Pullman, Washington
  - Room Improvements
- University of Minnesota Extension Service, Minneapolis
  - Renovation of Household Furnishings. Bulletin No. 117
- Louisiana Extension Service, Baton Rouge, Louisiana
  - Handyman's Book
- New York State Agriculture College, Ithaca, New York
  - Sewerage Disposal for Rural Homes. Extension Bulletin No. 48
- University of Nebraska, Lincoln, Nebraska
  - Lighting Nebraska Rural Homes by Kerosene and Gasoline Lamps. No. 225
- Farmers' Bulletins, U. S. Department of Agriculture, Washington, D. C.
  - The Well Planned Kitchen. Circular 189
  - House Cleaning Made Easier. No. 1180
  - Simple Plumbing Repairs in the Home. No. 1460
  - Floors and Floor Coverings. No. 1219
  - Principles of Window Curtaining. No. 1516
  - Window Curtaining. No. 1633
  - Rural Planning: The Social Aspects. No. 1325
  - Planning the Homestead. No. 1132
  - Beautifying the Homestead. No. 1097
  - Operating the Home Heating Plant. No. 1194
  - Materials for the Household. Circular No. 70, 1917. 50 cents. Bureau of Standards
- Small House Service Bureau, St. Paul, Minnesota
  - Your Future Home
- Architects Small House Service, St. Paul, Minnesota
  - Financing, Planning, Building the Small Home
- Better Homes in America, Washington, D. C.
  - The Relation of Housing to the Family. Ford
  - Selecting House Plans. Ford
- National Lamp Works, Nela Park, Cleveland, Ohio
  - Lighting the House. No. E405
  - Better Electric Lighting in the House. No. 47
- Singer Sewing Machine Company, New York
  - How to Make Draperies. 25 cents
- Good Housekeeping Studio, 119 West 49th Street, New York. 25 cents each
  - Arranging Comfortable, Charming Living Rooms
  - Decorative and Practical Treatment for Woodwork and Walls
  - Furnishing and Decorating a Five-Room Home for $2000
- Magazines
  - Better Homes and Gardens, Meredith Publishing Company, Des Moines, Iowa
  - Garden and Home Builder, Garden City, New York
  - Good Housekeeping, New York

O. Books on social customs

- *Eichler, The New Book of Etiquette. Garden City Publishing Company, Garden City, New York

Gibson, On Being a Girl. The Macmillan Company, San Francisco
*Everyday Manners, For American Boys and Girls, Prepared by the Faculty of the South Philadelphia High School for Girls. The Macmillan Company, San Francisco
Sterrett, The Charm of Fine Manners. J. B. Lippincott Company, Philadelphia
Dodd, Fiber and Finish. Ginn and Company, Chicago
Harris and Lacey, Everyday Foods. Houghton Mifflin Company, Boston
Post, Etiquette. Webb Publishing Company, St. Paul, Minnesota
Craig, Speech Arts. The Macmillan Company, San Francisco
Manners and Conduct in School and Out, by the Deans of Girls in Chicago High Schools. Allyn and Bacon, San Francisco

P. Recommended professional books and bulletins for teacher

Brown and Haley, The Teaching of Home Economics. Houghton Mifflin Company, Boston
Lancelot, Handbook of Teaching Skills. John Wiley and Sons, Inc., New York
Kaufman, Teaching Problems in Home Economics. J. B. Lippincott, Philadelphia
The Home Project, Bulletin 71, Revised. Federal Board for Vocational Education. Superintendent of Documents, Washington, D. C. 15 cents
Plant and Equipment for Classes in Home Economics, Bulletin 124. Federal Board for Vocational Education. Superintendent of Documents, Washington, D. C. 40 cents
Publications of Interest to Home Economics Teachers. Bureau of Education, Department of Interior, Washington, D. C.
Bulletins on Related Science and Related Art. Federal Board for Vocational Education. Superintendent of Documents, Washington, D. C.

Q. Professional magazines for the teacher

Journal of Home Economics. 101 East 20th Street, Baltimore, Maryland. $3.00
Home Economics News. Manual Arts Press, Peoria, Illinois. $1.00
Practical Home Economics. Lakeside Publishing Company, 468 Fourth Avenue, New York
Progressive Education. The Progressive Education Association, Washington, D. C. $4.00

R. Magazines for the department

American Home. Doubleday, Doran and Company, Garden City, New York. $1.00
American Cookery. The Boston Cooking School Magazine, 221 Columbus Avenue, Boston, Massachusetts. $1.50
Better Homes and Gardens. Meredith Publishing Company, 17th and Locust Streets, Des Moines, Iowa. 60 cents
Child Study Magazine. American Child Study Association, 121st Street, New York. $1.00
Child Welfare Magazine. Congress of Parents and Teachers, 5517 Germantown Avenue, Philadelphia. $1.00
Forecast. The Forecast Publishing Company, 145 North Sixth Street, Philadelphia. $2.00
Hygeia. American Medical Association, 530 North Dearborn Street, Chicago. $3.00
The Parents Magazine. Parents Publishing Association, 714 East 32nd Street, New York. $2.00
School Arts Magazine. Davis Press, Inc., 44 Portland Street, Worcester, Massachusetts. $3.00
Any Fashion Quarterly

S. Home economics tests and scales

Gates-Strang, Health Knowledge Tests. Bureau of Publications, Teachers College, Columbia University, New York
Home Economics Information Tests for Girls Completing the Eighth Grade. Bureau of Publications, Teachers College, Columbia University, New York
Illinois Home Economics Association, Foods Information Test. Public School Publishing Company, Bloomington, Illinois
King and Clark Foods Information Tests for Grades 6-12. World Book Company, Yonkers, New York
Stevenson and Trilling Pattern Test, for Grades 6-12. Public School Publishing Company, Bloomington, Illinois
Achievement Scale in Household Science, for Grades 8-9, by May E. Davis. Ginn and Company, Chicago
Streeter and Trilling, Food Preparation Test. Public School Publishing Company, Bloomington, Illinois
Frear and Coxe Clothing Test. Public School Publishing Company, Bloomington, Illinois
Murdock, Katherine, (a) General Merit Sewing Scale; (b) Analytic Sewing Scale. Bureau of Publications, Teachers College, Columbia University, New York
Stiebeling-Worcester, Chart for Diagnosing Defects in Buttonholes. Bureau of Educational Measurements and Standards, Kansas State Normal School, Emporia, Kansas

PART TWO

HOME ECONOMICS IN THE VOCATIONAL PROGRAM

(Smith-Hughes and George-Reed Vocational Acts)

I. Introductory Statement

Vocational education under the Federal acts must be of less than college grade; must be designed to meet the needs of persons over fourteen years of age; and must be under public supervision. In home economics, provision is made for high school, part-time, and adult classes. There are three high school programs reimbursable from federal funds: The Smith-Hughes program known as Program I; and Programs II and III, provided for in the George-Reed act.

The purpose of vocational education in the high school homemaking program is to prepare girls to have some skill in performing home duties, to prepare them to be better members of their own homes, and to give them a deeper appreciation of real home life.

II. The High School Programs

A brief description follows:

A. Program I—Smith-Hughes

For a Six-Clock-Hour Day

Program I may be a one or a two-year vocational program. One-half day of 180 minutes daily is devoted to the vocational program. Of this, at least 120 minutes must be devoted to home economics subjects and the remainder of the time to related subjects. Students must carry home economics and the related subject at the same time. This applies to all programs which include related work.

For a Five-Clock-Hour Day

This may be a one or two-year vocational program. At least 90 minutes per day must be devoted to home economics and an average of 60 minutes per day to related subjects. The time for related subjects may be divided into two 90-minute periods and three 45-minute periods per week. Two home projects should be done by each student.

B. Program II—George-Reed

Program II covers two consecutive years of work. Home economics may be offered a double period daily where the schedule provides for 40- or 45-minute periods, or a single period where the schedule provides for 60-minute periods. Related subjects are offered a single period daily in case of either time schedule.

Each student should carry to completion a minimum of two home projects in two phases of home economics work.

Supervision of Home Projects in Program II

The teacher should be allowed at least three school periods a week for the planning, supervision and checking up of home project work. This will be reimbursed as part of her teaching time. The school should provide ways and means for the teacher to visit each student's home at least once during the year.

C. Program III—George-Reed

Program III covers two consecutive years of work. Home Economics is offered a double period daily with a minimum of 90 minutes, and in addition, in the first year a minimum average of 30 minutes daily (2½ hours per week or 90 hours per year in a 9-months school) should be devoted to at least three properly planned and supervised home projects carried to completion in not less than three phases of Home Economics. In the second year a minimum average of 45 minutes daily (3¾ hours per week or 135 hours per year in a 9-months school) should be devoted to at least four properly planned and supervised home projects carried to completion in not less than three phases of home economics. It is recommended that science, and art, preceding, paralleling, or following home economics subjects, be taught in as close correlation as possible.

Supervision of Home Projects in Program III

The teacher should be allowed at least five periods a week for supervising and checking up home project work. This is part of her vocational teaching time. The school should provide ways and means for the teacher to visit each student's home at least once during the year.

Note: Combinations of programs may be used in one school. For example, Program I may be used for the first year course and Program III for the second year.

III. The Course

The course of study in high schools must provide for instruction and practice in all of the fundamental activities of homemaking and the arts and sciences upon which those activities are based.

The home economics subjects are outlined in this course of study.

Related Science is the subject recommended for the first-year related subject. It includes the phases of chemistry, physics, biology, physiology and bacteriology that apply to the home. The physiology that contributes directly to the intelligent care of the body, the bacteriology that explains principles of food preservation and care, the physics principles that give an understanding of the operation of certain household equipment, and the chemistry that applies to the selection and preparation of food, laundering, fabrics, and care of the house are dealt with in Related Science. The work should parallel the work in home economics units.

Related Art includes a study of the application of art principles to clothing and fabric selection, to home improvement, both interior and exterior, to the use of color in decoration, and in the selection of furnishing and equipment.

Bulletins on the teaching of Related Art and Related Science are being prepared by the Home Economics Service of the Federal Board for Vocational Education, Washington, D. C. (1931).

Qualifications of Teachers for Vocational Home Economics

Teachers must be graduates of a standard four-year college course in home economics approved for the training of vocational home economics teachers. Their professional training should include not less than twenty-two and a half quarter credits in education, which should include supervised teaching in home economics and a recent course in special methods of teaching home economics. Their course must also include home management experience and a course in which there was directed contact with young children. Since this is a cooperative program, the qualifications of each new teacher should be approved by the State Supervisor of Home Economics as well as by the local administration.

IV. Reimbursement

According to the present approved State plan, departments are reimbursed for one-half of the teacher's salary for time spent on the Vocational program.

For further information on other phases of the vocational program, write to the State Supervisor of Home Economics Education, State College, Bozeman, Montana, or to the State Superintendent of Public Instruction, Helena.

V. Part-Time Home Economics Classes

Part-time home economics classes may be organized for minors, over 14 years of age, who have entered upon employment and are released during regular working hours for instruction purposes.

A home economics part-time class is one in which 50 per cent or more of the time of the class is devoted to instruction in homemaking. The remainder of the time may be spent on related or general education subjects, depending upon the needs of the group. All instruction offered in a home economics part-time class will be supplemental to the daily employment of homemaking. Girls and women employed outside of the home are not excluded from part-time classes, since it may be safely assumed that practically every girl or woman has household duties of one kind or another for which she is responsible.

There are two more or less distinct groups of young women to be reached through part-time home economics instruction:

A. A group of young women who, although they have not had any extended experience as housekeepers, have been and are responsible for the conduct of certain household services. This group is largely made up of girls and young women who are employed in shops, factories, or stores, or who are occupied at home with the duties of the house daughter or the household assistant.

B. An older group of women who have had experience in housekeeping, and who are engaged for the most part in the business of housekeeping, or who are responsible for a home in addition to their wage-earning work in some industrial or commercial occupation.

For many of the first group the instruction will be largely preparatory work, as their experience in homemaking has been limited. But since both groups have had homemaking experience, all instruction is designed to better prepare for the occupation of homemaking, provisions having been made for modifications in method of presentation and in subject matter, depending upon the needs and experience of the groups to be reached. The course of instruction must extend over a minimum of 144 hours.

VI. Evening Home Economics Classes for Adult Women

Evening home economics classes may be organized for women over 16 years of age who are not regularly enrolled in the day school.

The groups of women who should be reached by evening school instruction are:

A. Those who either expect soon to have charge of their own homes or are interested in preparing themselves for homemaking responsibilities

B. Women who are already homemakers or household assistants and who desire to extend their knowledge of homemaking that they may be more efficient in some particular phase of their vocation

C. Groups of employed women who have either full or part-time responsibility for the home, in addition to their wage-earning occupations. These women need special help in planning, selecting, constructing, caring for, renovating, and repairing clothing for their families; in selection, preparation, and serving of family meals; in the budgeting of their income; in the care and training of children; and in other ways.

Units of instruction are suggested on the basis of five or ten lessons each.

VII. The Distinction Between Part-Time and Evening Classes

A. Part-time classes are organized to give instruction during the hours of usual employment in some wage-earning occupation

B. Evening classes are organized to give instruction outside of the regular hours of employment, and are sometimes designated as "leisure-time" courses

C. Part-time classes are open to persons over 14 years of age, while evening schools are open to persons over 16 years of age

D. The course of instruction in part-time schools must extend over a minimum of 144 hours, while for evening classes no minimum number of hours of instruction is required

COURSE OF STUDY

State of Montana

HIGH SCHOOL

MUSIC
AND
FINE ARTS

Elizabeth Ireland
State Superintendent of Public Instruction
Helena
1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Music and Fine Arts is being offered as a tentative program for the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and Teachers of Music and Fine Arts send from time to time, as this course is used, suggestions for its improvement.

The State Department of Public Instruction desires to give full credit, with appreciation, to Marguerite V. Hood, Supervisor, State Department of Public Instruction, Helena, for her work in preparing the Course of Study in High School Music.

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ELIZABETH IRELAND
State Superintendent of Public Instruction

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COURSE OF STUDY IN MUSIC

PART ONE—GENERAL SUGGESTIONS

I. Introductory Statement

Of all the arts, music is most universal in its appeal. It reaches the highest degree of spirituality in its influence, adds the most potent and desirable emotional experience, and furnishes the purest aesthetic enjoyment. Great music is one of the important cultural forces of the world, civilizing, refining, enriching human life. Since its potentialities are so great, it should be eagerly used by the state for the benefit of the children in the schools, and, in turn, for the public good.

The assurance of musical progress in a state depends in a great measure upon music in its schools. Such progress cannot be measured solely by a few outstanding examples of community musical activity, or by the ability on the part of a few students to do remarkable work in the musical line, or even by the fine orchestras and choral organizations found here and there, though all these are of importance. But the real test of musical progress lies in the interest and the achievements of the average student and community.

School music is usually divided in its general plan into two periods—grade and high school. The grade work aims to have the child acquire the correct use of his singing voice as a means of expression, the ability to read at sight, the ability to make response to the rhythm of music, and a preference for good music, gained through singing, playing, and listening. The high school period should make musical development possible for those students who have not had the opportunity in the grade schools to acquire the abilities mentioned above; it should also carry forward the work begun in the grades, offering opportunity for advanced study—more intelligent appreciation, perfection of technique, and development of individuality.

Experience has proven over and over again that music can be made a most worth while and practical subject as well as a very enjoyable one for the adolescent student. However, to be thus valuable, it must receive serious attention, and not be regarded simply as recreation or as an isolated technical subject. "Music has much of the range of literature. Its problems of style are as interesting and varied, and it has a language as nobly beautiful as that of poetry. It offers as solid a body of matter for study as that of literature and should be treated with the same educational seriousness in the curriculum."

To give instruction in music in the grades and omit it from the high school is to lose in a large part the valuable results of the elementary training, and to forfeit the opportunity for musical development during the most favorable period. And yet we find that, on the whole, musical standards in our high schools are not improving as rapidly as standards in other subjects. Usually no attempt is made to consider music as an actual part of the high school curriculum, demanding a teacher who has had as much special training for her work as teachers of other subjects have for their's and an organized course which insures work worthy of high school credit.

One of the most important aims of teaching music is to provide a worthy leisure-time activity for those interested in it. However, if individuals are to acquire the necessary knowledge and skill to make it possible for them to use and thoroughly enjoy some form of musical activity during their leisure time, they must receive some definite and consistent training. The student may enjoy his music class and feel that it is recreation for him but it must be carefully planned and carried on or it will not ultimately result in development of his individual powers of using leisure time in such a way as to secure both pleasure and satisfaction. The same is true also of the fulfillment of the other aims we have in teaching music—vocational preparation, the development of mental powers, and of physical, emotional and nervous control and stability, the growth of cultural background, etc. Carrying out any or all of these aims requires careful and serious planning of the work.

It is for the purpose of making possible a worth while music curriculum for the high schools of the state that this course has been compiled. Naturally, such an outline will not be perfectly adapted to the needs of every locality. The aim has been to offer a wide range of choice in materials and organization, and to plan for the best interests of the average student, with the hope that the instructors throughout the state will adjust the work suggested to their various situations.

II. General Administrative Problems

(An interesting and valuable book: **Music for Public School Administrators**, by Peter Dykema, is published by the Bureau of Publications, Teachers College, Columbia University, New York.)

A. Credit for high school music

The entrance requirements of the colleges making up the Greater University of Montana include fifteen units of work. Of these, three must be in English, one in American History and Government, and at least two others from each of three of the following groups: (a) Mathematics; (b) History or Social Science, in addition to the above; (c) Laboratory Science; (d) Foreign Language. For the five electives remaining, music credits in vocal, instrumental, theoretical, or appreciation work may be presented, as long as the local credit requirements of the schools are met by the work included in the courses offered, and provided that not more than two credits in Applied Music (private lessons in piano, voice, violin, etc.) are presented. Honorary music credits in addition to the number allowed toward graduation may be earned by any student who is sufficiently interested, and will be counted beyond the fifteen required for graduation.

Students who plan to attend colleges and universities outside of Montana should know definitely what entrance requirements must be met in those schools before arranging their high school programs. An interesting survey of entrance requirements is given in "College Entrance Credits and College Courses in Music," published by the National Bureau for the Advancement of Music, 45 West 45th Street, New York City.

Specific suggestions as to the number of credits feasible for each phase of music study are given below in the suggested schedule and also under the outlines for each course.

B. Qualifications and training of teachers of high school music

In Montana, the certification of teachers of high school music is of two types: First, certification granted to teachers who teach music in the high school for credit, where the time given by the student to the study of music is entirely under the direction and control of the school. This certification may be a Secondary State Certificate or a Special Certificate. The second type is certification granted to private music teachers who teach what is known as applied music, for which high school credit is given. (For further information in regard to applied music, read the division of the course of study in music under that title.)

1. Certification of the first type mentioned above may be granted on the following conditions:
   a. Secondary State Certificates
   The standards of accrediting set up by the State Board of Education recommend that a teacher of high school subjects be a graduate, or the equivalent, of a fully accredited four-year college or university, and that the practice of a teacher being assigned to teach subjects outside of the major field of preparation be discouraged. The State Department of Public Instruction recommends that, insofar as is possible, all teachers of music should have as a minimum preparation the following prerequisites:
      (1) A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in the branch of music to be taught. If it seems advisable, the school system employing the teacher may deduct five hours for each unit of credit earned in high school in the branch of music to be taught.
      (2) Evidence of mastery of the subject matter and skills in the music curriculum in which professional training was obtained
      (3) Supporting courses in subjects related to music
      (4) Courses in education, including:
         (a) Special methods in the teaching of music
         (b) Organization and administration of music courses suitable for high school courses
         (c) Supervised practice teaching in music

   b. Special Certificates
   The certification laws of Montana permit that a teacher of music be granted a Special Certificate, valid to teach music in the high school, on lesser qualifications than those required for graduation from a fully accredited four-year college or university. However, although such special certificate is issued, the requirements are very low, and the State Department of Public Instruction strongly recommends that the prerequisites listed above for a Secondary State Certificate be required of all high school music teachers.

2. Certification granted to private music teachers to teach music outside of school for high school credit:
   a. Applied Music Certificate
   Any private music teacher who teaches applied music for which high school credit is given shall be a high school graduate, or the equivalent, and must show special preparation in the technic and execution of the special instrument taught, as evidenced by a written examination, an oral examination, and a practical examination, all of which are under the supervision of the State Department of Public Instruction. (For additional information read the division of the Course of Study known as **Applied Music** or write to the State Department of Public Instruction, Helena.)

C. The high school curriculum

(Details regarding each course are given in the sections following this table.)

Minimum essentials

Subject	Number of Weekly Periods (45-60 minutes)	Elective or Required	Units of Credit per Year
I Assembly Music	At least ½ hour weekly	Required	
II Glee Club and Chorus	5 periods divided among Girls' Glee Club, Boys' Glee Club, and Mixed Chorus. At least 3 periods for each student.	Elective on tryout	½
III Band	3-5 periods	Elective with instructor's approval	¼—½
IV Orchestra	3-5 periods	Elective with instructor's approval	¼—½
V Applied Music (Private lessons in piano, voice, violin, etc., with an accredited teacher).	Two ½ hour lessons (or one 45-minute lesson) and practicing as required for the instrument.	Elective at discretion of principal and teacher	1
VI Introductory Music	2-3 periods (Alternating with Music Appreciation and History)	Should be a prerequisite or simultaneous requirement for II, III, and IV (above) for students who have not already had its equivalent	½
VII Music Appreciation and History	2-3 periods (if alternating with Introductory Music). 5 periods if desired.	Elective. Desirable for all students.	½—1

Additional desirable courses

Subject	Number of Weekly Periods (45-60 minutes)	Elective or Required	Units of Credit per Year
VIII Class Instrumental Lessons (Beginners' band or orchestra)	Daily classes—sometimes sectional, sometimes ensemble	Elective on instructor's approval. Promotion to advanced band and orchestra the aim.	Probably none. Depends on situation.
IX Junior Glee Clubs	2 periods	Elective. For development of experience, leading to promotion to advanced glee clubs and chorus.	¼
X Harmony	3-5 periods	Elective. Prerequisite: VI or equivalent.	½—1
XI Small Ensembles (Vocal and instrumental quartets, trios, etc.)	As necessary, or 1 daily period assigned to different groups on different days	Elective on tryout	None
XII Harmonica Band	2 periods	Elective	? (Possibly ¼, depending upon actual accomplishments)
XIII Piano Classes	At least one hour weekly	Elective	None
XIV Voice Classes	2-5 periods	Elective. Prerequisite: VI or its equivalent.	½—1
XV A Cappella Choir	2-5 periods	Elective on tryout	½—1

PART TWO—GLEE CLUBS AND CHORUSES

I. Aims

A. To develop in students the ability to:

1. Read part music
2. Sing, using correct vocal habits
3. Make singing a natural and wholesome activity in their lives

B. To give opportunity for:

1. Learning the best of choral music and thus making it a personal possession
2. Cultivating an understanding of the finest music
3. Developing a preference for beautiful and blending tone quality in singing

II. Administrative Problems

A. Division into sections

Every high school should have a girls' glee club, a boys' glee club, and a mixed chorus. The mixed chorus should be a combination of the two glee clubs, each student in them being expected to take part in the chorus as a part of his glee club work. If it is impossible to arrange for all of these groups, the glee clubs should always give way to the mixed chorus, which is by far the most important of the three. The organization of mixed a cappella choruses or choirs in place of, or in addition to, the ordinary glee clubs and choruses is proving an increasingly popular and valuable project in many schools.

Admittance to these groups should be by tryout. However, as soon as they are functioning regularly, junior glee clubs, open to any student desirous of singing in them, should be added to the music curriculum. These clubs can be of great value as a means of preparing students for the advanced clubs and choruses, and they should be training classes in reading music and in tone production. Their work should start with the simplest songs and increase in difficulty as their ability grows. During the year it is well to allow these junior clubs to sing with the advanced groups occasionally.

B. Size

Glee clubs and choruses should be made up of at least twelve members, and, as long as the singers are competent, the voices blending, and the size of the group reasonable for the situation, the larger the group the better, for choral work.

C. Rehearsals

Glee clubs and choruses should meet for a full period at least three times a week. Where both boys' and girls' glee clubs and a mixed chorus are organized, it will be found very convenient to have one glee club period open for use by all of these organizations so that they may alternate their rehearsals, boys and girls meeting separately some days and together other days.

D. Credit

Credit will depend upon the frequency of rehearsal and upon the work accomplished. For three regular weekly rehearsals for each student, alternating between glee club and chorus, together with the additional rehearsals necessary for frequent public performances, operettas, etc., one-half unit a year is a fair allowance of credit.

III. Procedure

A. Organization of groups

1. Testing of voices

a. Preliminary tryouts
The members of the groups, except for the junior clubs, should be selected by tryouts, though it may be found that where a group, such as a boys' glee club, is being organized for the first time in a school, it is well to allow all who wish to be members to join, in order to encourage the project, with the hope of improving or later eliminating the undesirables. Further suggestions on tryouts are given below under "c. Methods of testing."

b. Necessity for frequent testing
Since the voices of students of high school age are constantly changing and deepening in quality, frequent testing is necessary in order to protect them. Students should understand from the beginning the basis for the classification of voices and should learn to listen for depth and quality as well as for range. If their interest is thus aroused, they will always feel free to have their voices retested if the parts on which they are singing cause strain of any kind. No student should ever be kept on a part unsuited to his voice simply because he can sing it and his voice is needed to improve the balance of parts. These choral organizations should aim to protect and correctly develop the voices of the students even at the expense of the ensemble.

c. Methods of testing
The speaking voice will frequently give a hint as to the type of singing voice a student has, but it is not an accurate basis for judgment. Starting from a note that is about the center of the average student's range (perhaps G), each individual may be asked to sing with the piano, up the scale quickly as far as seems easy for him, stopping when the notes are too high, and then down as far as is easy for him, and finally back up to the first note. This can be done on so-fa syllables if they are familiar, or on a neutral syllable such as la. The use of such a scale will keep the voice employed several minutes so the teacher can listen to it. However, in some cases it may be found best to allow the student to sing a stanza of a familiar song instead of the scale, as he will feel freer and more natural in doing it. Girls who think they should sing alto should be carefully watched while they try out, to see that they do not create a wrong impression by singing with a coarse, "throaty" tone, when the natural voice is light and high.

d. Voice test cards
While a student is singing either the scale or the song, information as to the quality of voice, range, trueness of ear, and

use of voice, should be acquired by the teacher. It is suggested that a voice test card, which may easily be filled in and filed for future additions and reference, will be a help in these tryouts. A card similar to the one shown below might be used, in either mimeographed or printed form.

Name.. Age........... Class..............................
(Freshman, etc.)

Previous musical experience..

Ear................................. Voice................................ Quality.................................
(Soprano, bass, etc.) (Heavy, harsh, etc.)

Range.. Use of voice..
(Forced, natural, etc.)

Part assigned ....

Remarks ....

The student may fill in the first few blanks himself before the tryout. It will be impossible to definitely complete the entire card until after several tryouts. This card, kept on file, forms a valuable record of a student's development. It may be found worth while, if the music department does not already have a complete record of each student, to include further information such as street address, phone number, etc., with that suggested above.

2. Classification of voices
   a. Basis for classification
      (1) Range
      The approximate ranges of voices are as follows:
         (a) Girls
         First soprano—first line E to G above the staff
         Second or mezzo soprano—middle C to fourth space E or fifth line F
         Alto—A or A flat below middle C to third space C
         (b) Boys
         First tenor—bass clef E to the G above the staff
         Second tenor—bass clef C to the E above the staff
         First bass or baritone—low B flat on the bass clef to D above the staff
         Second bass—low G on the bass clef to high B flat
      These ranges are not arbitrary and, especially in the case of boys' voices, are frequently much smaller than indicated.
      (2) Quality
      It must be kept in mind that the quality of the voice is even more important than the range in making classifications. Soprano and tenor voices have a lighter and more brilliant quality than the others. The quality of each of the lower voices taken in the order in which they are given above, is richer and thicker than that of the higher voices. Frequently a really light soprano voice will have only the lower notes in its range developed. In such a case it should be placed on the second soprano

part, and an attempt made to teach the singer to relax until the natural upper tones come into use.

In choosing voices for an ensemble, better results will be secured if the attention is centered on the blending quality of the voices, rather than on the solo ability of the singers. A tremolo voice is very difficult to deal with, for it does not blend. Only by constant practice in keeping a steady, smooth tone in a medium or soft voice can the tremolo be improved.

b. Unchanged boy's voices

In every high school there are boys whose voices are still unchanged. These boys should be encouraged to sing soprano as long as it is easy for them to do so. Then, as their voices deepen, they should be placed, as they are ready, on suitable lower parts: alto, tenor, baritone, and sometimes even bass. Frequent testing is absolutely essential in such cases. Until their voices deepen at least to a low alto so that the first tenor part is within their range, it is usually best to include these boys in the mixed chorus only, as their presence in a boys' glee club may be injurious both to them and to the ensemble.

3. Securing balance in the ensemble

A correct balance of parts is necessary for the best results in choral singing. For the different types of organizations, the following approximate estimates of the number on each part are made:

Girls' Glee Club (20 members)	**Boys' Glee Club** (20 members)	**Mixed Chorus** (40 members)
First Soprano—7	First Tenor—4	Soprano—14
Second Soprano—8	Second Tenor—5	Alto—11
Alto—5	First Bass—6	Tenor—7
	Second Bass—5	Bass—8

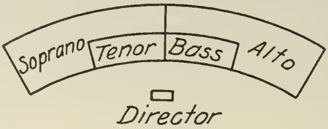
However, these numbers will depend on the individual voices and the singing ability of the group, and real balance can be secured only by listening carefully to a group to be sure no one part overbalances the others in strength. In smaller or larger groups the proportions will be about the same as those given above. With high school organizations it must be kept in mind that this balance is always a definite aim, but students must never be kept on a part unsuited to their voices simply to develop a balanced ensemble. One of the gravest criticisms that is made of choral work in high schools is that students' voices are frequently exploited even to the point of being permanently injured, in order to secure a good balance of parts.

4. Seating arrangements

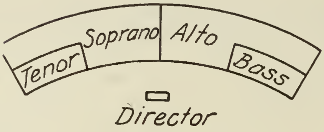
A chorus or glee club must be grouped by parts if good work is to be done. Several seating arrangements are possible, and the following factors should influence the choice of the one most suitable to the situation: appearance of the group in case of a public performance, the carrying and blending powers of voices of different quality, the size and shape of the room, and the effect of grouping on the ease of singing. A semicircular grouping is usually best for both appearance and blending of tone. The following arrangements are suggested:

MIXED CHORUS OR A CAPPELLA CHOIR

1



2



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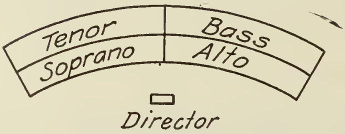
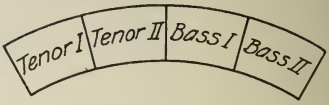


BOYS GLEE CLUB

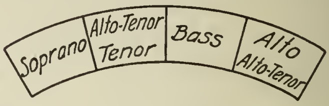
A. CHANGED VOICES

4



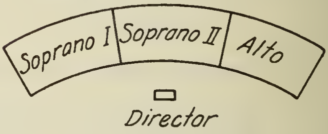
B. CHANGED & UNCHANGED VOICES

5



GIRLS GLEE CLUB

6



No. 1 is suitable for use with either four-part mixed chorus work or three-part (soprano, alto, baritone) work. No. 5 is for use in connection with boys' glee clubs including both changed and unchanged voices. Since the songs in collections for such groups vary greatly as to arrangement and as to division into groups it is difficult to indicate definitely the placing of the group. The aim is to place the heavy voices in the center, and the higher, lighter ones on the outside.

5. **The a cappella choir**

Special attention must be given to the blending quality of each voice chosen for an a cappella choir. It is very important that every singer have a keen ear and be able to sing on pitch. A group of sixteen or twenty singers, with well-balanced parts, can form the nucleus upon which to gradually build up a very fine a cappella choir, though if suitable voices are available the work will be easier with thirty or more singers. Sustained simple harmonies, such as are found in many well-known hymns and folk tunes, will be most successful for the first work. A book of exercises and selections for developing a cappella singing is suggested in the Bibliography below. One of the main aims of such a choir is to gradually develop in singers and listeners alike an understanding and love for the beauty of the early as well as the modern a cappella music—madrigals, motets, hymns, folk songs, etc. Students will usually enjoy this work more fully if they have a little knowledge of the form of the music they are singing and of its historical background. They will also be interested in the famous ensembles of the present day which sing music of the kind, and in records of their singing. The English Singers, the Dayton Westminster Choir, the St. Olaf's Choir, and the Flint (Michigan) High School A Cappella Choir are especially outstanding. The recent revival of the popularity of this form of singing has led to the publication of quantities of music of this type suitable for use by high school groups. Some suggestions are included under the octavo music and books listed in the Bibliography below.

6. Small vocal ensembles

Small vocal ensembles, such as sextettes, quartets and trios, will be found very valuable in helping develop musicianship and individual independence in singing. Members of these groups should be chosen for the blending qualities of their voices and for their ability to read and sustain a part easily. The first music used in small groups of this kind should include only very simple harmonies and skips. Usually slow, sustained music is best, and will allow the singers to give attention to the blending of their voices.

B. Conducting the rehearsal

1. Student assistants

The assistance of a secretary in keeping the roll of the group, and a librarian in handling the music, will permit the director to give his full attention to the details of the rehearsal. If individual manila folders containing copies of all music to be used during the rehearsal are given to the students as they arrive, the confusion caused by frequent passing and collecting of music will be avoided.

2. Lesson program

a. Importance

A rehearsal schedule, dividing the period among the different phases of work to be touched upon, should be planned in advance and adhered to. Otherwise, frequently all of the period is spent on one or two selections, to the neglect of the others, and, in the end, this lack of foresight seriously hinders real progress.

b. Divisions

(1) Exercises

Two or three minutes at the beginning of a rehearsal can profitably be used for deep breathing and relaxing exercises. These have the effect of developing the correct physical, emotional, and mental attitudes for a good rehearsal. Extended vocalizing is not recommended, except in the hands of an expert vocal teacher, as it is very liable to result in strained voices.

A booklet of simple exercises prepared for this type of work and also for giving the group experience in blending their voices is suggested in the Bibliography below.

(2) Songs

The first and last songs used should be familiar ones—for review, enjoyment, or final polishing. The principal part of the period should be spent in working up new material, but there should also be time reserved for a little sight-reading of music slightly easier than that prepared for public performance. At least some of the work of each rehearsal should be done a cappella. One of the aims of school choral work is the development on the part of the individual of the ability to carry his own part alone in a familiar, easy selection, when each of the other parts is carried by one voice. Opportunity for experience of this kind should frequently be included in the rehearsal.

The librarian should know beforehand the list of pieces for the day so the music will be in readiness for use.

(3) Introductory work
In case most of the members of the group have had no previous musical training, and if a class in Introductory Music is not possible, a part of the glee club or chorus period should be given over to a study of the problems of music reading and ear training, as outlined under the course in Introductory Music. If this is not done, the group will be very slow in making progress and in acquiring the ability to learn even the simpler selections readily. The materials suggested for the class in Introductory Music will be suitable for this work, to which the first ten or fifteen minutes of the period can profitably be given several times weekly.

(4) Theoretical study and review
If the members of a choral organization have had only the most fundamental of musical training, or if it is desired to continue the introductory work suggested above, a part of the rehearsal period may very profitably be spent in review and further study. This will prepare the group for more intelligent and rapid work on more advanced selections. The book suggested in the Bibliography below is an ideal text for this work, since it includes not only a section on theoretical problems but also a section on the use of the voice and a group of sight-reading exercises for the class.

3. Points for special attention

a. Tone
Tone quality, intonation (singing in tune), and blending are three phases of the work that must be stressed continually if good choral singing is to be developed. If the students learn from the beginning to listen for these three details and their effect upon the relation of each to the ensemble, they will develop the ability to make constructive criticisms of their own singing, and thus improve intelligently.

b. Diction and pronunciation
Special attention should be given to diction and to the correct pronunciation of vowel sounds. In words including vowels made up of two sounds, the first sound should be sustained to the end of the syllable, and then the second quickly added. (For example, "light" should be sung "lah-it" not "lah-e-et".) Final consonants should not be articulated until the very end of the note on which they are sung, but should then be distinct. These factors will do much to develop both good tone quality and a clear and correct utterance of words.

c. Accuracy in details
A high degree of accuracy in reading notes, time, expression marks, etc., should be demanded from the very beginning. Only in this way can the desired effects be produced. Consistent training in careful attention to the cues and beat of the director, making clean-cut, unified attacks, and interpreting intelligently the dynamic signs and expression marks in the music, should be given to all students in these organizations, since all of this training is needed to develop their real understanding of the music they sing.

d. A cappella work
At least one of the numbers rehearsed each period should be sung a cappella. Even in the case of music with which an accompaniment will be used, a cappella rehearsing gives the best possible practice for developing independence of parts,

blending of voices, and good intonation. It may be difficult at first, but slowly and surely the beneficial results will appear. Music used for this purpose should at first be rather sustained in type, with simple, easy harmonies. Many of the well-known hymns and familiar songs are effective for such work; e. g., "Now the Day Is Over" (Barnby), "Day Is Dying in the West", "Stars of the Summer Night" (Woodbury).

4. Influence of physical conditions

Correct sitting and standing positions, abundance of fresh air during the rehearsal period, etc., will do much more to develop naturally correct breathing habits than will special attention to breathing, and thus will indirectly improve the general quality of the singing.

5. The director

A choral group reflects very clearly the knowledge, ability, and interest of its director. The following qualifications and characteristics are almost essential to the successful choral director:

a. A thorough understanding of the music in use, its technical difficulties, its historical background or type, and the spirit or the thought necessary for its interpretation; an up-to-date knowledge of the music available for a suitable repertoire for choral work
b. A knowledge of voices, their classification, protection, and development; an understanding of the means of combining them so as to bring out the richest harmonies and finest shadings of tone; and the ability to detect mistakes instantaneously and to demonstrate or to assist any part needing help
c. The ability to direct clearly and authoritatively and in such a way as to convert the ensemble from a loosely associated group into a closely knit unit
d. A personality which will attract and hold the interest of a large group, inspire their confidence and enthusiasm, and command their respect
e. The dignity of bearing, erectness of carriage, and neatness of dress necessary for an attractive appearance to the singers and to an audience if there be one
f. Executive ability in planning a rehearsal beforehand so that every minute is used to advantage, and in planning public performances which progress smoothly and without delays
g. The love of music and desire to share it with others necessary for developing a capacity for hard work, unlimited patience, and infinite attention to detail

Every director who would be successful must continually check himself on these points. The books suggested under "Director's Library" in the Bibliography below are extremely valuable for the director wishing to improve his work.

C. Preparation for public performance

1. Stage etiquette

All choral organizations should have as a part of their drill, training in correct stage presence. The ability to make a pleasing and animated appearance, to walk on and off the stage properly, to stand correctly, etc., develops muscular and nervous control valuable to every student. The little matters of stage deportment, such as allowing girls to enter and leave the stage first, paying respect always to the director, etc., are niceties every student should learn to observe.

2. **Grouping on the stage**

The arrangement of a group for concert singing on the stage will follow the same general plan as is used in seating. Students will do better work in public performances if they are accustomed to singing with the individuals who stand next to them. See above under "Seating arrangements".

3. **Memorizing**

All selections prepared for public performance should be memorized. Students cannot give the necessary attention to the director or to details of tone and interpretation essential to a good performance if they are forced to watch the music too. With a little practice such memorizing will be easily and rapidly done.

IV. Content

A. Standards of music used

1. Difficulty

Music used by glee clubs and choruses should be easy enough to make the singing period enjoyable. It should be so suited to the skill of the group using it that a good performance is possible, and yet it should gradually increase in difficulty as the experience of the group increases.

2. Musical and literary worth

If choral singing is to result in an appreciation of the best music, the very highest standards should be adhered to in the matter of the quality of the music itself and the worth of the texts. There is such an abundance of very fine choral music that the use of the cheap music apparently so popular in many places is inexcusable.

B. Vocal parts

1. Girls' glee club

High school girls' glee clubs should sing in either two or three parts, but not in four parts, as the range in four-part music is too great to be suitable to the voices of girls of this age.

2. Boys' glee club

Beginning boys' glee clubs can profitably do considerable unison work if care is taken to choose songs without too great a range. As soon as possible, songs in three- and four-part harmony should be attempted, as boys' voices lend themselves easily to this type of harmony.

3. Mixed chorus and a cappella choir

The chorus music most frequently used will be in four-part arrangement. This type of music provides more satisfying, full harmonies, especially for a cappella singing, than are possible in arrangements using fewer parts. However, it will be found that some three-part mixed chorus music (soprano, alto, baritone) is a valuable addition to the choral library of any school. Where a mixed chorus is just being organized, the S. A. B. (soprano, alto, baritone) chorus is ideal for getting boys interested, and helping them develop confidence in their own singing ability, since they all sing on one part and frequently that part carries the melody. Even where four-part music is used, an occasional S. A. B. number is valuable.

Where students in chorus have had no previous singing experience, it may be best to spend a short time on unison work, in which case songs with a very moderate vocal range must be chosen. Since there are frequently more girls than boys who have had previous musical training it is sometimes possible to start simple part singing by allowing the boys to carry the melody to a song (singing lightly) while the girls sing one of the other parts—the alto if it is not too low. This is possible with "Silent Night," "My Faith Looks Up to Thee," "Juanita," "Sweet and Low," "Long, Long Ago," "Stars of the Summer Night," etc. After experience of this kind, a chorus should be able to begin work on easy S. A. B. arrangements.

V. Bibliography

(Complete addresses of all publishers are given at the end of the music course of study.)

A. Director's library

Book	Author	Publisher
Choral Music and its Practice	Cain	Witmark
The Eloquent Baton	Earhart	Witmark
Training the National High School Chorus (Article)	Dann	National Bureau
Essentials in Conducting	Gehrkens	Ditson
Twenty Lessons in Conducting	Gehrkens	Ditson
Principles of Conducting	McCray and Busch	Fitzsimons
Madrigal Singing	Scott	Oxford
The Technic of the Baton	Stoessel	C. Fischer
Choir and Chorus Conducting	Wodell	Presser

B. Exercises for choral groups

Tuning-Up Exercises (Mixed, women's, or men's voices)	Maybee	Ditson

C. Materials for introductory work (sight-reading and theory)

See Pages 888 and 893.

D. Materials for theoretical study and review

School of Choir Singing	Christiansen	Augsburg

E. Music for choral groups

From among quantities of worth while material for the various types of choral organizations, the following suggestions are made. Attention is called to the fact that several collections listed in the sections following include in one volume songs for unison, two-, three-, and four-part singing, and could be used for several types of ensembles.

Mixed Chorus

Four-Part A Cappella Chorus

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Sleepy Weary World	Linders	White-Smith
Kye Song of Saint Bride	Clokey	Birchard
Hospodi Pomilui	Lvovsky-McKinney	J. Fischer
Water Boy	Negro—Pitcher arr.	Birchard
Summer is A-Coming In	Old English	Boston Music Company
Let My People Go	Negro Spiritual—Smith arr.	Paul A. Schmitt
Fireflies	Russian	E. C. Schirmer
Charm Me Asleep	Suabian-Brahms arr.	E. C. Schirmer
Slumber Song of Infant Jesus	Gevaert	E. C. Schirmer
Lo, How a Rose E'er Blooming	Praetorius	E. C. Schirmer
O Morn of Beauty (Finlandia)	Sibelius-Matthews	Ditson
Matona, Lovely Maiden	Lassus	G. Schirmer
O Eyes of My Beloved	di Lasso	E. C. Schirmer
Saint Raphael	Brahms	Novello
The Naiades	Brahms	Novello
The Lord Bless You and Keep You	Lutkin	Summy
The Pearl	Spanish-American—Loomis arr.	Birchard
Grant Me True Courage Lord	Bach	E. C. Schirmer
Echo Song	di Lasso	G. Schirmer
In These Delightful Pleasant Groves	Purcell	E. C. Schirmer
Break Forth, O Beauteous Heavenly Light	Bach	Boston Music Company
Only Begotten Son	Gretchaninoff	J. Fischer
Dusk	Gretchaninoff	Boston Music Company
O Can Ye Sew Cushions	Bantock	Novello
Beautiful Savior	Christiansen	Augsburg

Four-Part Chorus with Accompaniment

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
A Merry Life	Denza	Birchard
Marianina	Italian	Birchard
Out on the Deep	Lohr	Birchard
A Hunting We Will Go	Kountz	Witmark
Softly at Nightfall	Kountz	Witmark
O Shining Night (Barcarolle)	Offenbach-Trinkaus	Witmark
Hope Carol	Smith	Birchard
Who is Sylvia	Schubert	Birchard
How Can I Forget Thee, Russia	Kluchansky	Huntzinger
Serenade	Schubert-Repper	Birchard
The Heavens Are Telling	Beethoven	E. C. Schirmer
Oh, Italia, Italia, Beloved	Donizetti	Birchard
Twenty Eighteen	English—Deems Taylor arr.	J. Fischer
In His Little Cradle	Franck-Mitchell	Birchard
John Peel	English—Repper arr.	Birchard
Chorus of Bacchantes	Gounod	E. C. Schirmer
When the Foeman Bares His Steel	Sullivan	Birchard
The Sleigh	Kountz-Riegger	G. Schirmer
Pilgrims' Chorus	Wagner	Willis
Song of the Hunt	Cox	E. C. Schirmer
Swing Low, Sweet Chariot	Negro Spiritual—Reddick arr.	J. Fischer
Holy, Holy, Lord (Sanctus)	Gounod	Willis
Olaf Trygvason	Grieg-Remick	Birchard
O Captain! My Captain	Kelley	Birchard

Collections of Material for Four-Part Chorus

(Arranged in approximate order of difficulty, the last being most difficult. Books marked * are especially recommended.)

Title	Composer	Publisher
Fifth Book of Songs (Unison, 2, 3, and 4 part songs)	Foresman	American Book
Junior-Senior High School Chorus Book	Baker and Daniel	Church
Sixth Book of Songs (Unison, 2, 3, and 4 part songs)	Foresman	American Book
*Higher Book of Songs	Foresman	American Book
Senior Laurel Songs (Unison, 2, 3, and 4 part songs)	Armitage	Birchard
*The A Cappella Chorus (Vols. IV-V)	Jones and Krone	Witmark
*Choruses for Mixed Voices		Hall and McCreary
*Concord Junior Song and Chorus Book	Davison et al	E. C. Schirmer
High School Choruses for Special Occasions	Gartlan and Donnelly	Hinds, Hayden and Eldredge
*A Book of Choruses	Chadwick, et al.	Silver, Burdett
*The A Cappella Chorus Book	Christiansen and Cain	Ditson
Standard Song Classics	Baldwin and Newton	Ginn
High School Songs for Every Occasion	Gartlan and Donnelly	Hinds, Hayden and Eldredge
Program Choruses	Bowen, et al.	Hall and McCreary

In addition, the books suggested under "Assembly Music," and also "Twice 55 Community Songs—The Green Book" (Birchard), and "The Gray Book of Favorite Songs" (Hall and McCreary), contain many selections suitable for chorus use.

Special Chorus Collections

Title	Composer	Publisher
Twenty-five Chorales by Bach	Elsmith—Surette arr.	E. C. Schirmer
Ten Traditional Carols for Christmas		Ditson
The Concord Anthem Book	Davison-Foote	E. C. Schirmer
Father Finn's Carol Book (Unison)		Birchard
Christmas Carols and Choruses		Hall and McCreary
Christmas Carols—Ancient and Modern		Birchard
Sacred Choruses		Hall and McCreary
Easter Hymns and Carols		Birchard
A Garland of Yuletide Melodies (Unison)	Pfatteicher	C. Fischer
Forty Spirituals	Goodell arr.	Hall and McCreary
Christmas Songs and Carols	Sawyer	Denison
South Carolina Spirituals	Diton	G. Schirmer

Soprano, Alto, Baritone Chorus

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
A Hunting We Will Go	Kountz	Witmark
When De Banjo Plays	Wilson	Lorenz
Marcheta	Schertzinger	John Franklin
Crusader's Hymn	Wick arr.	Wick's School Music Bureau
Marianina	Italian—Loomis arr.	Birchard
Venetian Love Song	Nevin	John Church
Songs My Mother Taught Me	Dvorak	John Franklin
Lo! Now the Dawn is Breaking (Salut d' Armour)	Elgar-O'Hare	John Franklin
Italian Street Song (from "Naughty Marietta")	Herbert	Witmark
On the Road to Mandalay	Speaks-Bliss	J. Church
Red Leaves Falling (Chant sans Paroles)	Tchaikowsky	John Franklin
Bendemeer's Stream	Irish—Manney arr.	B. F. Wood
Woodland Night (Pique Dame)	von Suppe-O'Hare	John Franklin
In Springtime	Becker	Paul A. Schmitt
Deep River	Negro Spiritual—Trinkaus arr.	Witmark
Fair Wind and Weather	Mexican—Treharne arr.	Boston Music Company
Ah! That Thou Might (Sapphic Ode)	Brahms	Witmark
Swing Low, Sweet Chariot	Negro Spiritual—Reddick arr.	J. Fischer
A Dream Boat Passes By (Andantino)	Lemare-Manney	Ditson
Peasants' Evening Prayer (Poet and Peasant)	von Suppe	John Franklin
Praise Ye (from "Attila")	Verdi	Willis

Collections of Material for S. A. B. Choruses

(Arranged in approximate order of difficulty, the last being most difficult. Books marked * are especially recommended.)

Title	Composer	Publisher
Senior Laurel Songs (Unison, 2, 3, and 4 part songs)	Armitage	Birchard
S. A. B. Secular Chorus Book	Wilson	Lorenz
*Laurel S. A. B. Book	Armitage	Birchard
Selected S. A. B. Choruses	Wilson	Lorenz
*The A Cappella Chorus (Vol. III)	Jones and Krone	Witmark
*Franklin Three Part Chorales (S. A. B.) Vol. I	O'Hare	Kay and Kay
*Concord Junior School and Chorus Book (Unison, 2, 3, and 4 part songs)	Davison et al	E. C. Schirmer
School Collection, Vol. I of S. A. B.		Sam Fox
Ten Songs for Soprano, Alto, and Bass		Birchard

Boys' Glee Club

Unison and Two-Part Boys' Glee Club

Octavo Music

Title	Composer	Publisher
A Sea Song (from "Rigoletto")	Verdi	Birchard
Sailing Song	Lehar	Birchard
Tinker's Song (from "Robin Hood")	DeKoven	G. Schirmer
John Peel	Ames	Birchard
My Spanish Guitar	College Song	Birchard
Gypsy John (2 part)	Clay	Birchard
The Three Doves	Italian—Loomis arr.	Birchard

Three-Part Boys' Glee Club

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Who's That A'Calling	Lawreer	Birchard
Southern Memories	Plantation Melodies	Birchard
The Hunter's Horn	Kountz	Witmark
Seville	Clark	C. Fischer
Long, Long Ago	Bayley	Birchard
Send Out Thy Light	Gounod	Birchard
Larboard Watch	Williams-Moore	Parks
Pale in the Amber West	Parks-Moore	Parks
The Wolf	Roberts	Hoffman
When Dawning Springtime (O Sole Mio)	di Capua	Birchard
Hunting Song	Gurlitt	Kay and Kay
Night Shadows Falling (Andantino)	Lemare	Kay and Kay
Marcheta	Schertzinger	Kay and Kay
The Heart of You	Dvorak-Parks	Parks
We Be Three Poor Mariners	Ravenscroft	Oxford
Song of Praise	Mendelssohn	J. Fischer
To All You Ladies Now on Land	Callcott	E. C. Schirmer
A Night Song	Lohr-Moore	Parks
Little Star	Ponce-O'Hare	Kay and Kay
Glory of the Dawn	O'Hare	Kay and Kay
Night is King	Lake	C. Fischer

Four-Part Boys' Glee Club

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Marianina	Italian—Pitcher arr.	Birchard
Tiritomba	Italian—Luvaas arr.	Birchard
Stars of the Summer Night	Woodbury	Birchard
A-Hunting We Will Go	Kountz	Witmark
The Mule	Cowboy Song—Grant-Schaefer arr.	A. P. Schmidt
Kentucky Babe	Geibel	White-Smith
When Song is Sweet	Sans-Souci	Paul A. Schmitt
Softly at Nightfall	Kountz	Witmark
Pop! Goes the Weasel	Schaffer	Witmark
Let My People Go	Negro Spiritual—Smith arr.	Paul A. Schmitt
Volga Boatmen's Song	Russian—Page arr.	Ditson
Hear dem Bells	McCosh-Treharne	Willis
Winter Song	Bullard-Lewis	Ditson
The Drum	Gibson	G. Schirmer
The Bird in the Lindentree	Soderberg-Wick	Wick's School Music Bureau
The Open Road is Calling	Kountz	Witmark
Break Forth, O Beauteous Heavenly Light	Bach	H. W. Gray
Oh Italia Beloved	Donizetti-Pitcher	Birchard
The Song of the Jolly Roger	Chudleigh-Candish	Curwen
Lo, Where the Pale Night	Flotow	John Franklin
Land-Sighting	Grieg	Fitzsimons
O Peaceful Night	German	Novello

Collections for Boys' Glee Clubs—Changed Voices

(Arranged in approximate order of difficulty, the last being most difficult. Books marked * are especially recommended.)

Title	Composer	Publisher
*Laurel Glee Book for Male Voices	Armitage	Birchard
*Twice 55 Part Songs for High School Boys (Check Book)	Dykema	Birchard
*Choruses for Male Voices		Hall and McCreary
Part Songs for Boys with Changing Voices		Presser
High School and College Glee Club	Wick	Wick's School Music Bureau
Twice 55 Community Songs for Male Voices (Blue Book)	Dykema	Birchard
Library Collection—Vol. I—Male Voices		Fox
*Glee and Chorus Book for Male Voices	Towner-Hesser	Silver, Burdett
*The Glenn Glee Club Book for Young Men	Glenn and French	Ditson
*Hampton Series Negro Folk Songs (Vols. I-II Spirituals; III-IV Work and Play Songs)	Curtis-Burlin	G. Schirmer

Collection for Boys' Glee Clubs—Changed and Unchanged Voices

Title	Composer	Publisher
The Laurel Unison Book	Armitage	Birchard
The Glenn Glee Club Book for Boys	Glenn and French	Ditson
*Chorus Book for Boys (Vols. I and II)	Probst and Bergquist	G. Schirmer
*School Songs for Junior High Boys' Choruses	Grant-Schaefer	A. P. Schmidt
Boys Own Chorus Book—Vol. I	Baker, Daniel, Carlson	Boston Music Company

Girls' Glee Club

Two-Part Girls' Glee Club

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Marcheta	Schertzinger	John Franklin
Bendemeer's Stream	Irish—Pitcher arr.	Birchard
Carem Carmela	Mexican—Loomis arr.	Birchard
The Sandman	Brahms-Biedermann	J. Fischer
Thou Art My Sunshine (O Sole Mio)	di Capua	Witmark
Italian Street Song (from "Naughty Marietta")	Herbert	Witmark
The Parrot	Mexican—Treharne arr.	Boston Music Company
Cock-a-doodle-doo	English—Davis arr.	E. C. Schirmer
Woodland Night (Pique Dame)	von Suppe	John Franklin
Star Lullaby	Polish—Treharne arr.	Boston Music Company
Cradle Song	Brahms-Protheroe	Gamble
Sundown (Londonderry Air)	Irish—Wilson arr.	Lorenz
Wanderer's Night Song	Rubinstein	Birchard
The Bonnie Banks of Loch Lomond	West	Novello
Serenade	Schubert	Birchard
O'er the Waters Gliding (Barcarolle)	Offenbach	Novello
May Day Carol	English—Taylor arr.	J. Fischer
On Wings of Music	Mendelssohn	Birchard
Shepherd, Shepherd, Leave Decoying	Purcell	E. C. Schirmer
Song of a Prince in a Fairy Tale	Roumanian—Treharne arr.	Boston Music Company
Come Join the Dance (Stephanie Gavotte)	Czibulka	Birchard
Beautiful Blue Danube	Strauss	E. C. Schirmer
In His Little Cradle	Franck	Birchard
The Moon Reappears	Purcell	E. C. Schirmer
I Go Before, My Charmer	Morley	E. C. Schirmer

Three-Part Girls' Glee Club

Octavo Music

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Crusader's Hymn	Wick arr.	Wick's School Music Bureau
When Song is Sweet	Sans-Souci	Paul A. Schmitt
Marianina	Italian—Pitcher arr.	Birchard
Softly at Nightfall	Kountz	Witmark
The Bird in the Lindentree	Soderberg-Wick	Wick's School Music Bureau
Within a Dreaming Harbor	Cook	Paul A. Schmitt
Sweet and Low	Barnby	Lorenz
Kye Song of St. Bride	Clokey	Birchard
Love is a Rose	Sans-Souci	Paul A. Schmitt
Youth at the Brook	Schubert	Birchard
Lo, How a Rose E'er Blooming	Praetorius	E. C. Schirmer
Songs My Mother Taught Me	Dvorak-Loomis	Birchard
The Shepherdess of Sleep	Aylward	Chappell-Harms
Good Night	German Folk Song	E. C. Schirmer
On the Steppe	Gretchaninoff	Ditson
Grant Me True Courage Lord	Bach	E. C. Schirmer
Vere Languores Nostros	Lotti	E. C. Schirmer
River River	Chilean—Zoltai arr.	J. Fischer
Dark Eyes	Russian—Treharne arr.	Boston Music Company
Matona, Lovely Maiden	Lassus	J. Fischer
Lift Thine Eyes	Mendelssohn	E. C. Schirmer
Passing By	Purcell	Ditson
Shepherd, Shepherd, Leave Decoying	Purcell	E. C. Schirmer
The Valleys of Dream	Fletcher	Novello
The Galway Piper	Fletcher	E. C. Schirmer
O Can Ye Sew Cushions	Bantock	Novello

Collections for Girls' Glee Clubs

(Arranged in approximate order of difficulty, the last being most difficult. Books marked * are especially recommended.)

Title	Composer	Publisher
Franklin Two-Part Chorals	O'Hare	Kay and Kay
Concord Book of Songs No. 4 (Unison, 2 and 3 part songs)	Davison et al.	E. C. Schirmer
Twice 55 Community Songs for Treble Voices (Rose Book)	Dykema	Birchard
Four Christmas Carols		E. C. Schirmer
Twelve Famous Irish Songs in Three-part Arrangement	Moore	Parks
Twelve Famous Scottish Songs in Three-part Arrangement	Grey	Parks
*Laurel Songs for Unchanged Voices	Armitage	Birchard
*Choruses for Treble Voices		Hall and McCreary
*Concord Junior Song and Chorus Book (Unison, 2-, 3- and 4-part songs)	Davison et al.	E. C. Schirmer
*The Glenn Glee Club Book for Girls	Glenn and French	Ditson
*All-Star Octavo Collection, Vol. I		Flammer
*Concert Songs for Girls	Armitage	Birchard
*The Choral Treasury for Young Ladies	Bryant and Bliss	Boston Music Company

VI. Operettas and Musical Plays

A. Value

The operetta or musical comedy gives opportunity for a variety of experience not possible in any other phase of chorus work. If care is taken in choosing the operetta to be produced, students can gain as much from this type of work in the way of singing ability, interpretation, and appreciation, as from the average selection of choral numbers that would be used in the same length of time. These performances give opportunity for solo work and small ensembles, as well as chorus work, and thus frequently bring out new talent.

B. Production

1. Staging and use of dancing

A little cleverness in the staging and costuming and the insertion of a few simple dances and rhythmic movements by the chorus will make of the simplest work a performance of artistic merit, if the music and text are worthy. The director must have a clear understanding of the dramatic freedom of a musical play, otherwise the production will not have the light-hearted spontaneity, the atmosphere of illusion, and the smooth blending of rhythm, song and dialogue, necessary to the desired charming and fanciful whole. The books suggested in the Bibliography below give detailed information on the various technical phases of such work and of suitable dances, and at least one of each type should be in the library of every operetta director.

2. The use of the orchestra

The high school orchestra can gain much valuable experience in connection with the production of an operetta. However, it should be used only for the overture, for incidental music between acts, and to furnish accompaniment for the choruses and dances. It should **never** accompany solos or small groups, or strained voices will result.

C. Choice of operetta

1. Basis for choice

It is a serious mistake on the part of a director to choose an operetta or musical comedy that does not include music and text of real and permanent value. These performances require much time and work on the part of students, and if something of permanent value musically cannot be gained through them they should **never** be sponsored by a music department. The market is flooded with publications containing the cheapest of music and the poorest of texts.

In the case of a number of operettas where the music as written is too difficult for use by the average high school chorus, frequently part of it can be simplified by unison singing, or by transposition to an easier key, without harming the effect. In every case, care should be taken that the vocal range is not wide enough to cause strain.

A list of operettas of a standard and of a degree of difficulty suitable for production in high schools is given in the Bibliography following.

D. Bibliography

(Complete addresses of publishers are given at the end of the music course of study.)

1. Books on operetta production

Title	Author	Publisher
Preparation and Presentation of the Operetta	Beach	Ditson
Musico-Dramatic Producing	Jones and Wilson	Gamble
School Operettas and Their Production	Umfleet	Birchard
Making Up	Young	Witmark

2. Books of dances

Title	Author	Publisher
Recreative Dances for Classes in Physical Education	Beckley	Ditson
Folk Dances and How to Do Them	Buchanan	Successful Farming
Folk Dances from Old Homelands	Burchenal	G. Schirmer
The Folk Dance Book	Crampton	A. S. Barnes
Twice 55 Games with Music (Red Book)	Dykema	Birchard
Rhythmic Plays for Elementary and High Schools	Huesman	University of Nebraska

3. Operettas and musical plays

(Orchestrations and stage guides are available for most of the operettas suggested.)

Operettas for Mixed Voices

Unison, two-part, three-part, or four-part

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
O Hara San	Johnston	J. Fischer
A Nautical Knot	Rhys-Herbert	J. Fischer
Pierrette Among the Shepherds	Curtis	Summy
The Willow Plate	Bornschein	Birchard
Little Almond Eyes	MacFarlane	Ditson
The Gypsy Rover	Dodge	Willis
The Fire Prince	Hadley	Ditson
Pepita	Knight	Ditson
The Outlaw King	Decker-Malone	Birchard
All at Sea (Gilbert and Sullivan arrangements)	Loomis	Birchard
Joan of the Nancy Lee	Curtis	Presser
Lelawala	Cadman	Willis
Young Handel of Hanover	Boswell and Clark	Witmark
The Marriage of Nanette	Curtis	Presser
The Magic Wheel	Gaynor and Veale	J. Church
The Emperor's Clothes	Clokey	Birchard
The Pied Piper of Hamelin	Clokey	Birchard
Trial by Jury	Sullivan	Presser
Daniel Boone	Gaines	Birchard
Pinafore (Laurel edition)	Sullivan	Birchard
The Pirates of Penzance (Laurel edition)	Sullivan	Birchard
Mikado (Laurel edition)	Sullivan	Birchard
Martha (Laurel edition)	von Flotow	Birchard

Operettas for Girls' Voices

Title	Composer	Publisher
Blue Beard	Foster	Birchard
Se-A-Wan-A	Lester	Ditson
The Japanese Girl	Vincent	Boston Music Company
The Pirates of Penzance	Sullivan-Pitcher	Birchard

Minstrels, Fantasies, Pageants, Folk Plays

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Cinderella (Musical fairy tale)	Loomis	Birchard
Land o' Cotton (Minstrel)	Johnson	Willis
The Nativity (Mystery play)	Eckman and Fyffe	Ditson
The Lass That Loved a Sailor (Folk music)	Fisher	Birchard
Sally in Our Alley (Folk play)	Remick	Birchard
In the Land of Cotton (Crest Minstrel Overture)	Witmark	Witmark
Minstrel Opening Choruses and Finales		Denison
Way Down South in Dixie (Stephen Foster fantasy)	Engel	Birchard
Hansel and Gretel (Opera adaptation)	Humperdinck-Elsmith	Birchard
Penny Buns and Roses (Fantasy)	Repper	Birchard
Songs of Other Days (American historical music play)	Knowlton	Ditson
The Shepherd's Christmas Eve	Cook and Foxlee	G. Schirmer
Rumpelstiltskin (Fairy Tale)	A. Scott-Gatty	Boosey
King Nutcracker (Fantasy)	Tschaikowsky-Bornschein	J. Fischer
When Troubadours Sang (Folk music pageant)	Brockett	Birchard
Why the Chimes Rang (Christmas play)	McFadden	French
Inchling (Fantasy)	Cator	Birchard
Contest of the Nations (Folk music and dances)	Page	Birchard

VII. Cantatas and Large Choral Works

A. Value

The cantata is a possible vehicle for excellent choral experience. It will give the same type of training to choruses and small ensembles as an operetta, without requiring staging, costuming, or dramatic coaching. The study of cantatas opens to choruses some of the finest choral music written. Individual numbers from cantatas may be used for separate performance. Teachers will do well to give more attention to the possibilities of the cantata—the learning of a good cantata once a year will provide variety and excellent musical training and will build up an invaluable repertoire of choral music.

B. Choice of cantata

Care should be taken that the work chosen is within easy singing range for high school voices—many fine cantatas require a singing range that will seriously strain young voices. A suggested list of good cantatas suitable for use by high school groups is given below.

C. Bibliography

(Complete addresses of all publishers are given at the end of the music course of study.)

Two-Part Cantatas

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Childhood of Hiawatha	Wilson	Lorenz
Rip Van Winkle	Wilson	Lorenz
Spring Cometh	Kountz	Witmark
Sea Fairies	Dunhill	Birchard
The Wondrous Story (Christmas)	Kountz	Witmark
The Fairy Wedding	Hadley	Birchard
In Woodland	Kountz	Witmark
Peer Gynt Suite	Grieg-Silver	J. Fischer

Three-Part Cantatas—Treble Voices

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Childhood of Hiawatha	Wilson	Lorenz
Spring Cometh	Kountz	Witmark
The Singers	Bornschein	Fitzsimons
The Wondrous Story (Christmas)	Kountz	Witmark
In Woodland	Kountz	Witmark
Chambered Nautilus	Fearis	Fearis
Pan on a Summer Day	Bliss	Willis
The Land of Heart's Desire	Nevin-Taylor	Presser
The Song of Man	Kountz	Witmark
A Mother Goose Arabesque	Tukey	Birchard
American Ode	Kountz	Witmark

Three-Part Cantatas—S. A. B. Chorus

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Childhood of Hiawatha	Wilson	Lorenz
Rip Van Winkle	Wilson	Lorenz
Spring Cometh	Kountz	Witmark
Taras	Decker	Lorenz
Glad Tidings of Great Joy (Christmas)	Kountz	Witmark
The Wondrous Story (Christmas)	Kountz	Witmark
The Ballad of the Oysterman	Grant-Schaefer	A. P. Schmidt
In Woodland	Kountz	Witmark
Caravan	Kountz	Witmark
Rosamunde	Schubert-Federlein	G. Schirmer
American Ode	Kountz	Witmark

Four-Part Cantatas—Mixed or Male Voices

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Spring Cometh	Kountz	Witmark
The Wondrous Story (Christmas)	Kountz	Witmark
Choral Fantasia from "Pinafore"	Sullivan-Page	Ditson
May the Maiden	Gounod-Loomis	Birchard
Childe Jesus	Clokey-Kirk	Birchard
The Fountain of Youth	Hosmer	Birchard
Indian Love Charm	Cadman	Willis
Faust	Gounod-Zamecnik	Fox
The Song of Man	Kountz	Witmark
The Singers	Gaul	Witmark
The Admiral of the Seas	Hadley	Birchard
A Mystery Play for Christmas	McKinney	J. Fischer
Carmen	Bizet-Zamecnik	Fox
The Village Blacksmith	Gaines	Birchard
American Ode	Kountz	Witmark
The Father of Waters	Cadman	Ditson
I Hear America Singing	Gaul	Birchard

PART THREE—INSTRUMENTAL CLASSES, BANDS, AND ORCHESTRAS

I. Introduction

It has become a recognized fact in the educational world that playing upon an instrument is an accomplishment which will greatly benefit the average individual. It gives him a means of worth while enjoyment and self-expression and a leisure-time employment. Through ensemble work it also provides a socialized activity by which is developed the joy and unity of spirit that come to groups of people playing together.

II. Instrumental Classes

A. Value of class work

In first organizing bands and orchestras, or in starting beginners to build up ensembles already organized, it has been found that class instruction on the instruments is advisable. It provides a means of giving opportunity for study to more students, and keeps the work uniform, high in standard, and interesting.

B. Administrative problems

1. Sections

The instrumental classes will usually be divided into string, wood-wind and brass sections. If the schedule permits, it will be found that a separate section for each instrument (where the group studying is large enough to warrant it) will permit much more rapid progress. After the first few lessons it will be profitable to combine the groups frequently for ensemble work.

2. Size

Instrumental classes will be more interesting and it will be easier to do thorough teaching, if not less than five nor more than fifteen students are included in a class.

3. Rehearsals and credit

Instrumental classes should meet daily if it is at all possible to arrange such a schedule. It is necessary for them to meet for at least two periods weekly if real progress is to be made. Seldom, if ever, should school credit be given for this work. It is merely preparatory to the band and orchestra work for which credit is given, and students from the classes should be admitted to these organizations as soon as their progress warrants.

C. Procedure

1. Preliminary testing

a. Physical equipment

A pupil should be requested to consult the instructor before buying an instrument, in order to be tested for his physical adaptability to the instrument he desires to play. Careful testing in the beginning will avoid many later difficulties that would grow out of a lack of the necessary physical requirements. Suggestions for tests for each instrument are given in nearly all of the books listed in the Bibliography following.

b. Musical ability

The demands of all of the various instruments as far as the innate musical ability of the player is concerned are very similar, but some require an especially keen sense of pitch, others extreme sensitivity to rhythm, etc. The aptitude tests suggested in the section of the course devoted to "Tests and Measurements in Music" are of great value in testing a pupil's musical ability along these special lines to determine his probable success in mastering the difficulties connected with the instrument he desires to play.

2. Organizing the work

Care must be taken that the work in instrumental classes insures an absolutely correct technical foundation and understanding of the instruments from the beginning, or the whole purpose of the work will be defeated by the inability of students to progress beyond the beginning steps because of lack of technical ability. This is perhaps especially true of classes for string instruments. All students, whether beginning or advanced, should be encouraged to take private lessons if a good teacher is available. If the instructor of the instrumental classes is a regular member of the high school faculty, it is usually best to make the class lessons a part of the regular school work, and free of charge. However, in some cases it may be found advisable to charge a small fee. The Bibliography below includes a list of books valuable to the organizer and director of instrumental classes, orchestras, and bands. Several of them should be in the library of everyone engaged in such work.

D. Content

Several very fine instrumental class courses are available. Situations vary in different schools, and the course used should be chosen to meet the local demands, sometimes including study of the fundamentals of music as well as lessons on the instrument. The best courses for the average situation provide for class instruction entirely, to begin with, and combine this with ensemble work including all sections as soon as possible. The sectional classes should be continued until the students have reached considerable independence on their instruments and they should always be included in the regular work of all instrumental groups.

E. Bibliography for instrumental classes

(The complete addresses of all publishers are given at the end of the music course of study. The books or selections marked * are especially recommended.)

1. Director's library

Book	Author	Publisher
Practical Orchestration	Andersen	Birchard
Musician's Book of Knowledge	Caton	Southern California
Building the School Orchestra	Carr	Willis
*The Eloquent Baton	Earhart	Witmark
*Essentials in Conducting	Gehrkens	Ditson
Twenty Lessons in Conducting	Gehrkens	Ditson
Project Lessons in Orchestration	Heacox	Ditson
The American Band Arranger	Lake	C. Fischer
*Ditson School and Community Band Series—Leader's Book	McConathy et al.	Ditson
*Principles of Conducting	McCray and Busch	Fitzsimons
Instrumental Class Teaching	Maddy and Giddings	Willis
*Instrumental Technique for Orchestra and Band	Maddy and Giddings	Willis
School Bands	Maddy	National Bureau
School Orchestras	Maddy	National Bureau
*The Technique of the Baton	Stoessel	C. Fischer
*School Orchestras and Bands	Woods	Ditson
Acoustic Chart		National Bureau
Instruments of the Band and Orchestra		National Bureau

2. Materials for instrumental classes

Class Methods for Band Instruments

Book	Author	Publisher
*Building the Band	Chenette	Rubank
Modern Way Method	Dippolito and Thompson	Southern California
Reed, Brass, and Drum Ensemble	Gordon	Birchard
*Foundation to Band Playing	Griffen	Jenkins
*Lake's Elementary Band Method	Lake	C. Fischer
Junior Band Course	McConathy et al.	Ditson
School and Community Band Series	McConathy et al.	Ditson
*The Mirick Method for Band	Mirick	Gamble
*The Moore Band Course	Moore	C. Fischer
*Band Fundamentals	Webber	White-Smith

Class Methods for Band and Orchestral Instruments

(Methods for orchestra include parts for string as well as for wind instruments and may be used for string classes.)

Book	Author	Publisher
*The Universal Teacher (Band and Orchestra	Maddy and Giddings	Willis
*Melody Method (Band and Orchestra)	Stuber	Hoffman

Class Methods for Orchestral Instruments

Book	Composer	Publisher
Modern Orchestra Training Series (For classes including players of various degrees of advancement)	Church and Dykema	Birchard
Junior School and Community Orchestra	Gordon	Willis
*School and Community Orchestra	Gordon	Willis
Voices of the Orchestra	Gordon	Birchard
Instrumental Unisons (Supplementary material for instrumental classes)	Wilson	J. Fischer

Class Methods for Violin Only

(These are suggested in addition to those named above for orchestral instruments. The materials in the last two methods mentioned below may be combined advantageously.)

Book	Author	Publisher
*Root's Conservatory Method for Violin	Dietz	McKinley
*The Melody Way to Play Violin	Miessner-Dasch	Miessner
*Municipal Loose Leaf Violin Method	Ortmann	C. Fischer

III. High School Bands

A. Administrative problems

1. Sections

First year band work will begin with instrumental classes and will develop to include ensemble work as well. After the first year, if there are many beginners, it will be found advantageous to have two bands—the beginning or training band and the advanced band. The beginning band will start the year with class instrumental instruction only, and later will work into simple ensemble playing. As players progress, they may be promoted to the advanced band.

2. Rehearsal schedule and credit

It is advisable to have high school bands meet for one period a day, five days a week, just as other regular classes meet. One-half unit of credit per year is a fair allowance for this amount of work. Two of the days should be given over to sectional rehearsals and the other three to the complete ensemble, or vice versa. The importance of these sectional rehearsals as a means of working out individual problems, acquiring technical skill, tone quality, balance, etc., cannot be overemphasized. They need not always be a complete period in length—frequently the period can be divided between two sections—but if they are a regular part of the week's work, the rehearsals of the full band will be found to be much more effective. If a schedule of five periods a week is impossible, at least three periods must be spent by the band if any real progress is to be made. A quarter unit of credit per year is a fair allowance for this amount of work.

B. Procedure

1. Organization

a. Preliminary testing
See above under "Instrumental Classes"

b. Securing balance in instrumentation
The attaining of good symphonic balance, even in a small band, should be the aim of every director. While it is impossible, in some cases, to have perfectly balanced instrumentation to begin with, the ultimate success of the band depends upon careful planning and consistent and determined effort in that direction. Frequently temporary substitutions can be made for missing instruments. In some cases when the trumpet section is crowded, one or two of the best players might be encouraged to start work on the French horn. In case of a similar situation in the clarinet section, some players could start the study of the oboe. Special care must be taken that the brass section of a band does not overbalance the wood-wind section. The number of saxophones should be restricted or the tone quality of the ensemble will be harmed. A beginning or training band will take care of many players on the waiting list for the advanced band and at the same time give them practice and experience. Players in both bands will do much better work if they realize that competition exists in the section and that only a limited number of players will be used in the advanced band. Suggested combinations for bands of various sizes are given below:

Instrument	Number of Players						
	15	20	30	40	50	60	75
Flute and Piccolo			1	1	2	2	3
B flat Clarinet	5	7	9	11	15	20	25
E flat Clarinet				1	1	2	2
Oboe			1	1	1	2	2
Alto Clarinet				1	1	1	2
Bassoon			1	1	1	2	2
Bass Clarinet				1	1	1	1
English Horn							1
Alto Saxophone	1	1	1	2	2	2	4
Tenor Saxophone			1	1	2	2	2
Baritone Saxophone			1	1	1	1	1
Bass Saxophone							1
B flat Cornet and Trumpet	3	4	5	6	6	7	8
*French Horn	1	2	3	4	4	4	5
Baritone	1	1	1	1	2	2	2
Trombone	1	2	2	3	4	4	5
E flat Tuba	1	1	1	1	2	2	2
BB flat Tuba			1	2	2	3	4
Snare Drum	1	1	1	1	1	1	1
Bass Drum	1	1	1	1	1	1	1
Tympani					1	1	1

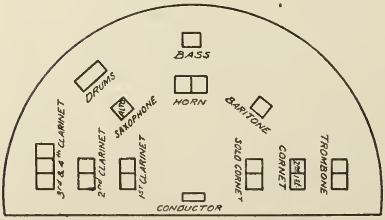
*Mellophones or altos may be substituted for French horns, but it may be necessary to use more of them to secure balance.

c. Seating arrangements

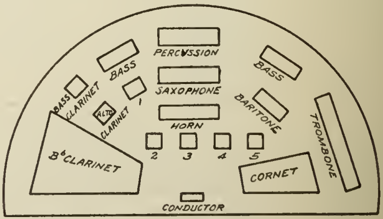
The seating arrangements for bands will differ according to the sizes of the organizations and the stage facilities. Suggestions are given in: **Music in the Junior High School**—Beattie et al. (Silver, Burdett). **School Orchestras and Bands**—Woods (Ditson); the **Ditson School and Community Band Series,** Leader's Book—McConathy et al. (Ditson). If it is necessary to arrange the chairs and stands for each rehearsal, a certain section can be assigned this duty each week and should be responsible for completing all arrangements before time for the rehearsal to begin. Precision and regularity should characterize the seating arrangements.

Parts and chairs in the band should be assigned according to individual ability. Usually this ability is best determined by individual tryouts in which each player demonstrates his skill in playing a familiar selection, and in sight-reading.

Suggested seating arrangements for large and small bands are given below:



BAND OF 20 PLAYERS



1 BASSOON 2. E♭CLARINET 3 OBOE 4. FLUTE 5. PICCOLO

BAND OF 50 PLAYERS

d. Small wind instrument ensembles

Small ensembles such as brass or wood-wind quartets or quintettes afford students an excellent opportunity of playing for enjoyment and of developing skill and musicianship, and they also provide vary attractive numbers for programs. Players selected for these groups should be those who thoroughly enjoy playing and are willing to spend extra time on such rehearsals. They must be able to play reasonably well and independently, and with very good intonation. One or two rehearsals a week with each group should be held consistently. Frequently students will be able to conduct most of the rehearsals successfully without the presence of the instructor.

A drum corps or a drum and bugle corps may also furnish valuable and attractive work for additional small groups and is of great assistance in parades. "Here They Come," a pamphlet published by Ludwig and Ludwig, and "Drum Corps Charts," published by Leedy, give help in organizing such a group.

Solos and duets for the various instruments can be secured from a number of publishers, among whom the following have publications that are noteworthy: Belwin (Conservatory Series), Barnhouse, C. Fischer, Woods Music Company, Boston Music Company, Rubank, Boosey.

Materials for use with various kinds of small ensembles of wind instruments are suggested in the Bibliography below.

2. **Conducting the rehearsal**

A good band rehearsal requires careful planning on the part of the director. Good discipline is essential to a successful band and if it is to be secured the group must be occupied all of the time. Members may be allowed to "warm up" softly beforehand, but after rehearsal begins, there should be no playing or talking except under the direction of the leader.

The assistance of a secretary to take roll and a librarian to look after the music will leave the director free to give his full attention to details of the rehearsal. If new music is to be distributed, the librarian should previously be given information about it, and should have it on the stands before the rehearsal begins. If a list of the selections, in the order in which they are to be used, is placed on the board where the players can see it, they can be prepared for each number without confusion.

The lesson program will usually consist of the following divisions:

a. Tuning of all instruments

This part of the work can be so organized as to be quickly completed. It is usually well to start the tuning with the clarinets, using their C as the tuning note (or with the oboe, using its B flat). All of the smaller instruments of the reed group are tuned to the clarinets. The cornets are also tuned to the clarinets, and following them, the other brass instruments and the larger reed instruments. All treble clef instruments in B flat will sound C, all treble clef instruments in E flat will sound G, and those in C will sound B flat. Instruments reading the bass clef (trombone, baritone, bass, etc.) will sound B flat. The poor intonation with which the majority of high school bands play shows the necessity for more careful tuning. If the tuning period does nothing else, it will at least develop in students attention to the pitch differences between their instruments. Many directors find that a very few minutes at the beginning of the rehearsal spent in playing sustained chords and scales, with practice in dynamics and on weak technical points, prepares the group for a much more efficient rehearsal. Material suitable for this work is suggested in the Bibliography below.

b. Familiar selections for "warming up"

c. New or unfinished material

A new piece should be played entirely through at the first reading, in order to give familiarity with it as a whole. Then it should be carefully worked out by phrases or sections until it is played with absolute accuracy. Students should develop the ability to get a correct feeling for the rhythm, tempo, working in of parts, etc., and an understanding of the musical terminology at the first playing.

d. A little sight reading of music easier than that being studied

e. Familiar selections with which to end

3. Preparation for public performances

a. Appearance

The uniforms (or ordinary costumes) worn by the band for public performances should be very clean and neat on every occasion of the appearance of the band, or the entire effect will be spoiled.

b. Stage etiquette

If it is necessary for students to march onto the stage in sight of the audience, they should practice doing so until the entrance is well-organized, smooth and "snappy". All should be seated at once at a signal from the director when he comes on the stage or from a student who takes his place for this purpose. If the players are seated when the director comes on the stage, they should arise quietly together and remain standing until he gives them the signal to be seated. There should be a uniform position for the holding of the instruments in each section while at rest, and they should be kept in that position at all times when they are not in use. A motion of the leader's baton should bring all instruments into playing position together. Students must sit erect, well back in their chairs, with both feet on the floor, if the band is to have the desired military appearance.

c. Parading

Every band should learn and practice at least the simpler details necessary for parading. First of all, drill must be given in marching without instruments, for the purpose of learning commands, keeping straight rank and file, turning corners, etc. Then the group must learn to march carrying the instruments properly, and, finally to march while playing. One or two simple marches, with strong rhythm and good harmony, memorized (or pasted on pasteboard to be easier to handle out-of-doors) will suffice for this work. Details in regard to march formations, drum majoring, etc., are given in some of the books suggested in the Bibliography. The musicianship, organization, and discipline of a band are tested by its ability to parade.

C. Content

Every band should include in its playing repertoire "America" and "The Star Spangled Banner," several good marches and other short numbers such as are found in the books suggested below, and also overtures and longer concert numbers of a high standard. Care should be taken that the numbers chosen are within possible range of good playing by the band for which they are selected—better a simple number well played than a difficult one poorly and carelessly played.

D. Bibliography

(The books or selections marked * are especially recommended. The complete addresses of all publishers are given at the end of the music course of study.)

1. Magazine

*The School Musician—National School Band and Orchestra Association, Publishers. (Provides a wealth of valuable and interesting reading material for both players and director.)

2. Director's library

See above under Bibliography for Instrumental Classes

3. Directions for parading

Book	Author	Publisher
Field Tactics for Military Bands	Fielder	C. Fischer
Drill and Evolutions of the Band	Reynolds	National Service

(Several of the books suggested for the director's library include directions for parading.)

4. Technical exercises for school bands

Book	Author	Publisher
The Educator, Book II	Barnhouse	Barnhouse
Thirty Harmonized Scale Studies	Jungnickel	Jungnickel
School and Community Band Series	McConathy et al.	Ditson
Warming Up Exercises for School Bands	Moore	C. Fischer
Band Fundamentals	Webber	White-Smith
Graded Chorales for Band	Lockhart-Goehring	Witmark
Technical Fun	Storer	Gamble

5. Music for school bands

The lists for the National School Band Contest furnish excellent suggestions of music for school bands. They may be secured from the National Bureau for the Advancement of Music, 45 West 45th Street, New York City. The Bureau also publishes a valuable pamphlet "A Survey of Music Material for Bands" by Morgan and Clarke. Many selections suitable for use by beginning bands may be found in the class methods listed above in the Bibliography for Instrumental Classes. Below is a classified list of worth while materials of various types for school bands of different abilities.

Band Books

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer or Editor	Publisher
*The Willis Graded School Orchestra and Band Series (Vols. I-III. Gradual increase in difficulty.)	Maddy and Giddings	Willis
Epperson's Beginners Combination Band Folio	Epperson	Fitzsimons
*Vander Cook Band Book	Vander Cook	C. Fischer
Junior Band Folio	Russell	Barnhouse
Contest Band Folio	Alford et al.	Rubank
*Chenette Band Book	Chenette	C. Fisher
Twenty Chorales	Bach-McConathy et al	Ditson
Fox Banner Band Folio (No. I)		Fox
Brockton Band Book	Brockton	C. Fischer
*Melodie Band Book	King	Barnhouse
Monitor Band Book of Marches	Rosenkrans	Jenkins
Alliance Band Collection	Mackie-Beyer	Pepper
*Will Huff Band Book	Huff	Fillmore
*Utility Band Book (No. I)	Jewell	Barnhouse
*Aeolian Band Classics	Holmes	Fitzsimons
Band Book of Military Marches		Jacobs
Artarmo Band Book	King	Barnhouse
Jacob's Concert Album for Orchestra and Band		Jacobs
Band Book of Classics (No. I)	Hildreth	Jacobs
*Symphonic Band Folio	Maddy	C. Fischer

Marches for School Bands

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Drums and Bugles	Chenette	C. Fischer
Scout Master	Jewell	Barnhouse
Cincinnatus March	Cook	Fillmore
Show Boy	Huff	Fillmore
Fort Gay	Huff	Fillmore
Heads Up	Klohr	Presser
Tenth Regiment	Hall	C. Fischer
The Premium	Huff	Fillmore
Apollo March	King	Barnhouse
Booster Boys	Jewell	Barnhouse
Tramp	Jewell	Barnhouse
National Emblem	Bagley	Jacobs
El Capitan March	Sousa	Presser
E Pluribus Unum	Jewell	Barnhouse
Our Director	Bigelow	Jacobs
Fighting Bob	Cook	Ludwig
The Southerner March	Alexander	Barnhouse
Semper Fidelis	Sousa	C. Fischer
Stars and Stripes Forever	Sousa	Presser
Washington Post	Sousa	Presser

Patriotic Selections and Favorite Songs

(Arrangements of "America" and "The Star Spangled Banner" are also included in each of the collections listed below.)

Title	Composer	Publisher
America	Hayes arr.	Fillmore
The Star Spangled Banner	Hayes arr.	Fillmore
The Birchard Band Folio (Favorite Selections)	Tracy and Hoppin	Birchard
The Golden Book of Favorite Songs (Band Arrangement)		Hall and McCrear
Jacobs Evergreen Collection of Fifty Favorite Old Songs	Hildreth	Jacobs
Holiday Collection (Favorite songs)	De Lamater	Rubank
The Leader's Delight (Airs of all countries)	DeVille	C. Fischer
Campus Band Book (Favorite songs)	Strasser	Ascher

Overtures and Larger Compositions

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
The Lost Chord	Sullivan	Ascher
A Fox Hunt	McKinley	C. Fischer
Spirit of America	Zamecnik	Fox
Festival Overture	Taylor	C. Fischer
Magneta Overture	Huff	Fillmore
Marche Militaire	Schubert-Chenette	Rubank
Londonderry Air	Lake arr.	C. Fischer
Prelude to Faust	Gounod	Ditson
Sullivan's Operatic Gems	Seredy	C. Fischer
On the Volga	Akimenko	C. Fischer
Largo	Handel	C. Fischer
Mazeppa Overture	Mahl	C. Fischer
Spirit of Youth	Sordillo	C. Fischer
Heart Wounds	Grieg	C. Fischer
Prelude from Suite Ancienne	Hadley	C. Fischer
Determination Overture	Hayes	Fillmore
Lustspiel Overture	Keler-Bela	C. Fischer
Harmony Queen	Coate	Rubank
Song of India	Rimsky-Korsakow	C. Fischer
Morning, Noon and Night Overture	Suppe	Fillmore
Queen of the Night (Babylon Suite)	Elie	C. Fischer
Valse Triste	Sibelius	C. Fischer
Polish Dance No. I	Scharwenka-Tobani	C. Fischer
Rhinefels Overture	Gruenwald	J. Church
Tannhauser March	Wagner	C. Fischer
Knight Errant	O'Neill	Rubank
Largo from New World Symphony (Gilmore Band Library)	Dvorak	C. Fischer
Merry Wives of Windsor Overture	Nicolai	Ditson
Finlandia	Sibelius	Ditson
Phedre Overture	Massenet	C. Fischer

6. Music for small wind instrument ensembles

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
Tritone Folio (Many combinations possible)	Maddy et al.	C. Fischer
*Instrumental Quartet Repertoire (Many combinations possible)	Maddy and Giddings	Willis
Saxophone Band Book (I and II)	Finder and Urbanek	Rubank
Columbia Collection (Favorite songs—quartet arr.)		Jacobs
*4 Tone Folio (Many combinations possible)	Cheyette-Roberts	C. Fischer
Peerless Brass Quartets		Fox
Select Saxophone Quartets		Fox
*The Harmony Solo, Duet and Trio Album	Roberts arr.	C. Fischer
Danse Humoresque (Flute, oboe, clarinet, horn, bassoon)	Hunter	C. Fischer
*Orchestral Training (Varied instrumental combinations)	Wilson	J. Fischer
A Kerry Tune (Clarinet quartet)	Irish—Harris	Cundy-Bettoney
Londonderry Air (Brass quartet)	Irish—Briegel	Briegel
*Loure (Flute, oboe, clarinet, bassoon)	Bach-Grisez	Cundy-Bettoney
*Tubulariana (Brass sextette)	Wilson arr.	J. Fischer
Musette (Flute, oboe, clarinet, bassoon)	Landry-Grisez	Cundy-Bettoney
Minuet (Wood-wind choir)	Mozart-Lockhart	Witmark
Classical Selection of Brass Sextets		C. Fischer
Gold Bell Collection for Saxophones		Rubank
Arioso and Fanfare (Six trumpets)	Busch	Fitzsimons
Pipes and Reeds (Wood-wind sextette)	Wilson arr.	J. Fischer
Julliard Series Music for Wind Instruments (Wood-wind sextette, Books I-II)	Barrere	G. Schirmer

IV. High School Orchestras

A. Administrative problems

1. Sections

If instrumental classes are conducted, orchestra work for the first year or more will be divided between such class work and ensemble playing. It will usually be found best to keep string classes entirely separate from those for wind instruments for at least the first semester. If instrumental classes are not conducted, no player should be accepted for the orchestra unless he can play reasonably well. It will be better to have a very small ensemble of players who can accomplish something than a large group including many so poorly prepared that they hold the entire group back. If numbers warrant, it will be found advantageous to have both a junior orchestra and an advanced orchestra, the former acting as "feeder" for the latter.

2. Rehearsal schedule and credit

High school orchestras should meet for one period a day, five days a week, just as other regular classes meet. One-half unit of credit per year is a fair allowance for this amount of work. Two of these days should be given over to sectional rehearsals and the other three to the complete ensemble, or vice versa. These sectional rehearsals will be found to be of inestimable value in working out the individual problems of each section and developing technical skill, tone quality, balance, etc. In large orchestras such sectional meetings will also provide a time for sectional tryouts of individuals and promotions from one chair to another.

No less than three weekly period rehearsals should be scheduled if real progress is expected of the group. One-fourth unit of credit is a fair allowance for this amount of work.

B. Procedure

1. Organization

a. Preliminary testing

See above under "Instrumental Classes."

b. Tryouts and assignment of parts

Parts and chairs in the orchestra should be assigned according to individual ability. Usually this ability is best determined by individual tryouts in which each player demonstrates his skill in playing a familiar selection, and in sight-reading. In case of the violins, the better players should be divided between first and second violin parts, if balance is to be secured. It should not be regarded as a sign of poor playing to be placed on second violin. In a very large orchestra, three or four of the best players will be placed on first violin, and the good players remaining will be divided between first and second violin.

c. Securing balance in instrumentation

(1) Standard symphonic instrumentation

It will be found difficult to secure a real symphonic balance of instruments in an orchestra, but without it the work cannot be either musical or interesting. A leader must constantly strive toward such a definite balance if his organization is to improve. A small but well-balanced orchestra will be of far greater value to a school than one that is large and poorly balanced. It is suggested that when it is impossible to find enough players to fill certain sections, substitution may be made of instruments that will as nearly as possible duplicate those missing. However, this should be a temporary arrangement while definite steps are taken toward securing the correct instruments. Special care should be taken to prevent overbalancing of the string section by the wind section. Only by organizing grade school classes to provide "feeders" for the high school organizations can a proper balance be maintained, especially where strings are concerned. Frequently an oversupply of trumpet and clarinet players will be found. In such instances only the best players should be chosen for the orchestra. It may be possible to encourage some of the well-trained players on the trumpet and clarinet to start work on French horn or oboe, respectively, in case there is a shortage of such instruments, and thus make room for more students in the orchestra. The piano is not necessary in the large orchestras. Suggested combinations for orchestras of various sizes are given below:

	Number of Players						
Instruments	10	15	20	30	40	55	75
Piano	1	1	1	1	1 (?)		
First Violin	4	5	6	8	9	12	15
Second Violin		2	3	5	7	9	11
Viola			1	2	4	6	9
'Cello	1	1	1	2	4	6	8
String Bass		1	1	2	3	4	7
Flute			1	1	1	2	3
Oboe				1	1	2	2
English horn							1
Clarinet	1	1	2	2	2	2	3
Bass clarinet						1	1
Bassoon				1	1	1	2
French horn				1	2	3	4
Trumpet	1	2	2	2	2	2	3
Trombone	1	1	1	1	2	2	3
Tuba						1	1
Drums	1	1	1	1	1	1	1
Tympani					1	1	1

(2) Substitutions

Substitutions are possible in case of shortage of certain instruments, but it must be kept in mind that they are only makeshifts and that the tone produced will be noticeably different from that intended in most cases. Where there are not enough violas available, violins can be used to fill in this section. In some cases clarinets can also be used to fill the viola section but the players must be those with very fine intonation.

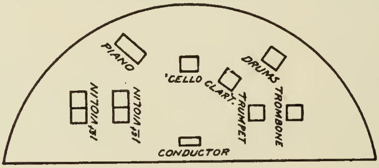
Saxophones should be used very sparingly, if at all, in an orchestra. Where the instrumentation is weak, saxophones may be used as temporary substitutes—the E flat alto for 'cello, the C melody for oboe, the B flat tenor for bassoon, etc.

A mellophone can be used in place of a French horn. It is usually possible to secure an F slide for the mellophone, but if not, it can be used in E flat and the music transposed in case it is not available for the E flat instrument. A sousaphone or tuba can be substituted for a string bass in most music.

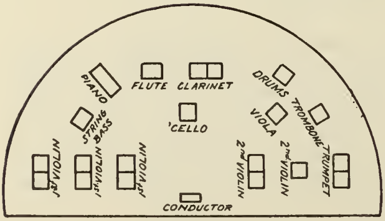
d. Seating arrangements

The seating arrangements for an orchestra will be determined by its size and the available stage facilities. In case of a very small orchestra, it will be found best to have all violins on one side of the director, and all wind instruments on the other side. The same is true of any orchestra when playing in an orchestra pit, except that in such a situation the entire string section will be placed on the side with the first violins. However, ordinarily it will be found best to divide first and second violins, the former to the left of the director, and the latter to the right. In seating the orchestra, due regard should be given to the greater volume of tone produced by some instruments as compared with that produced by others. Those of lesser volume and lighter tone should be placed toward the front in order to prevent them from being overbalanced in tone by the others. It is suggested that, since high school pupils are not players of professional ability, it will help the poorer players in the string section if a better player is placed on the outside of each row to be a guide and help to those on the inside, instead of having all of the best players in the front rows and the poorer ones behind. More detailed suggestions for seating arrangements are given in **Music in the Junior High School**—Beattie et al (Silver, Burdett), and **School Orchestras and Bands**—Woods (Ditson). Additional suggestions on the same topic are given above under "High School Bands."

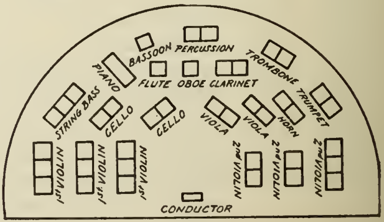
Suggested seating arrangements for orchestras of three different sizes are given below:



ORCHESTRA OF 10 PLAYERS



ORCHESTRA OF 20 PLAYERS



ORCHESTRA OF 40 PLAYERS

e. Small ensembles

Small ensembles such as violin quartets, string quartets, string trios, wood-wind quartets, etc., afford students an excellent opportunity of playing for enjoyment and of developing skill and musicianship. They also provide very attractive numbers for programs. Suggestions on their organization are given above under the same topic in the section on "High School Bands." Suggested materials for small wind instrument ensembles are also given in the Bibliography of the same section, and materials for small string ensembles are listed in the Bibliography below.

2. **Conducting the rehearsal**

A good orchestra rehearsal requires careful planning on the part of the director. Good discipline is essential to a successful orchestra, and if it is to be secured the group must be occupied all of the time. A poorly planned rehearsal with aimless practicing and repetitions will be discouraging to pupils and will be extremely harmful to the discipline of the organization. After the rehearsal begins there should be no playing or talking except under the direction of the leader. Additional suggestions on the rehearsal are given above under the same topic in the section on "High School Bands." The lesson program will usually consist of the following divisions:

a. Tuning of all instruments

If the tuning period at the beginning of each rehearsal is well organized, time will be saved, and the intonation of the orchestra will be better. If the orchestra includes an oboe player, he can sound the A by which the strings will tune; otherwise, a piano will be used. Order should be strict at all times, each section allowing the others uninterrupted tuning time. Speed and careful attention to the work at hand are necessary. It will usually be found most satisfactory to have the string section tune first, then the wood-winds, and finally the brass. All instruments can tune to A except the trombone, tuba, and tympani. The trombone and tuba are tuned to B flat on the piano or C on the B flat trumpet, while the tuning of the tympani depends upon the key of the first piece to be played. The Righter—Dasch Tuning Method for Orchestra (Gamble Hinged) is of interest.

b. Familiar selections for "warming up"

c. New or unfinished material. See suggestions on the same topic above under "High School Bands."

d. A little sight-reading of music easier than that being studied

e. Familiar selections with which to end

3. **Preparation for public performance**

Suggestions are given on the same topic in the section on "High School Bands." It will be found that the effect of precision and smoothness in the playing of the orchestra will be greatly increased if the bowing of the violin players is uniform. The bowing should be marked for each selection learned, and thus uniformity will be assured. In large orchestras the players should learn to follow the bowing of the first violinist to the left of the conductor. He, as concert master, will lead the bowing of his section.

C. Content

Most orchestras will include in their playing repertoires a few short, light selections, but the major part of the work should be spent on selections of standard quality, if skill and appreciation of orchestral music are to be developed. Care should be taken that the selections are within range of good playing by the orchestra for which they are chosen. There are many excellent and interesting standard selections easy enough to be well-played by the small orchestra and they will be much more effective and enjoyable to players and listeners alike, if well-played, than difficult selections poorly played.

D. Bibliography

(The books or selections marked * are especially recommended. The complete addresses of all publishers are given at the end of the music course of study.)

1. Magazine

*The School Musician. National School Band and Orchestral Association. (Provides a wealth of valuable and interesting reading material for both players and director.)

2. Director's library

See above under the Bibliography in the section for Instrumental Classes

3. Music for orchestras

The lists for the National School Orchestra contests always furnish excellent suggestions of music for school orchestras, and may be obtained from the National Bureau for the Advancement of Music, 45 West 45th Street, New York City. The Bureau also publishes a valuable pamphlet, **Survey of Music Material for Grammar, Junior, and Senior High School Orchestras**, by Rebmann. The miniature scores of the original editions of symphonies, concertos, and string quartets in the Philharmonia Pocket Scores edition are frequently very valuable to high school directors. They are obtainable from the Associated Music Publishers.

Collections of Orchestra Material

(It is suggested that directors secure "On Approval" copies of the scores of several of these collections in order to be able to choose the one best suited to local conditions in instrumentation as well as in the difficulty of the music. Special attention is called to the **Symphony Series of Programs**, the **Willis Graded School Orchestra Series**, and **Modern School Graded Orchestra Books**, each of which is arranged within the series to provide a gradual increase in difficulty. These series are placed in this list according to the difficulty of the first book in each series. These books are arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer or Editor	Publisher
*Modern School Graded Orchestra Books (Vols. I-III. Easy to difficult)	Roberts et al	C. Fischer
*The Willis Graded School Orchestra Series (Vols. I-III. Easy to difficult)	Maddy and Giddings	Willis
Twenty Chorales	Bach-McConathy et al	Ditson
Junior Orchestra Albums Vols. I-III)	Roberts	C. Fischer
Artistic Orchestra Folio		Jenkins
The School and Community Orchestra (Second Book)	Gordon	Willis
Progressive Orchestra Folios (Vols. I-IV)	Seredy	C. Fischer
*The Symphony Series of Programs	Stock et al.	Silver, Burdett
Universal Orchestra Series (No. I)		Hinds, Hayden and Eldredge
*Pochon Album for School Orchestra	Pochon	C. Fischer
Conservatory Collection	Mackie-Beyer	Pepper
*Jacobs' Folio of Classics for Orchestra (Nos. I-III)	Hildreth	Jacobs
*Standard Orchestra Folios (Nos. IV-V)	Maddy	Irving Berlin
Folio of Concert Favorites (Nos. I-II)		Ascher
*Master Series for Young Orchestras (Grieg Suite, Schumann Suite, Bach Suite, Handel Suite, etc.)	Rebmann-Clarke	G. Schirmer
Odeon Loose Leaf Collection of Orchestra Music	Kretschmer	Pepper
Overture Book No. I		Ascher

Separate Selections for High School Orchestras

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer	Publisher
At the Spinet	Clark	C. Fischer
Nocturne; March of the ABC's (Elementary Series No. 7)	Reinhold-Hartmann	G. Schirmer
The Album	Schumann	Birchard
By Candle Light	Coon	Birchard
Londonderry Air	Irish—De Lamater	Rubank
Hunting Song	Lazarus	Ditson
At the Fair	Grace-Trinkaus	Witmark
Largo (Phil. Orch. Series)	Handel	Ditson
The Happy Wanderer	Jensen	Birchard
Christmas Music	Grieg-Hoppin	Birchard
Mazurka Op. 68 No. 3	Chopin	Birchard
Song of India	Rimsky-Korsakow	Ditson
Moment Musical (Phil. Orch. Series)	Schubert	Ditson
Hungarian Dance No. 5 (Phil. Orch. Series)	Brahms	Ditson
Valse Triste	Sibelius-Schmid	Schirmer
Andante Cantabile from String Quartet Op. 11	Tschaikowsky-Schmid	Schirmer
The Magic Flute, Overture	Mozart	C. Fischer
A Country Dance	Hadley	Birchard
Ethiopian Dance from "Sylvia"	Delibes-Gilbert	Birchard
Symphony in G Minor (First Movement)	Mozart-Moses	C. Fischer
Ballet Music and Entr'acte II from "Rosamunde"	Schubert	C. Fischer
Unfinished Symphony	Schubert	C. Fischer
Largo from "New World Symphony"	Dvorak	C. Fischer
Egmont Overture	Beethoven	C. Fischer
Symphony No. 5 (First Movement)	Beethoven	C. Fischer

Orchestra Music for Special Occasions

Title	Composer or Editor	Publisher
The Golden Book of Favorite Songs (Orchestration)		Hall and McCreary
Holiday Collection (Favorite Songs)	De Lamater	Rubank
The Community Orchestra Book (Twice 55 Plus Community Songs)		Birchard
Jacobs' Evergreen Collection of Fifty Famous Old Songs	Hildreth	Jacobs
Folk Songs of America (Medley)	Hildreth	Jacobs
Loose Leaf Collection of Fifteen Standard Marches (No. I-III)		Jacobs
Stars and Stripes Forever	Sousa	Presser

4. Music for small string ensembles

(Arranged in approximate order of difficulty, the last being most difficult.)

Title	Composer or Editor	Publisher
Blumenlese Op. 3 (For two violins. Vols. I-IV)	Schroeder (Ruhle ed.)	G. Schirmer
Our First Trio Book	Kinscella	G. Schirmer
*Instrumental Quartet Repertoire (Many combinations possible)	Maddy and Giddings	Willis
*Graded Course of Ensemble Playing	Auer	C. Fischer
Quartets for Four Violins	Trinkaus	Witmark
Klassische Stucke (Two violins)	Hermann	Peters
Columbia Collection (Favorite songs—quartet arr.)		Jacobs
Tritone Folio	Maddy et al.	C. Fischer
The String Players Ensemble Repertory (Four violins and piano)	Rissland arr.	Ditson
*4 Tone Folio (Many combinations possible)	Cheyette and Roberts	C. Fischer
*The Harmony Solo, Duet and Trio Album	Roberts	C. Fischer
Treasure Tunes (Violin, cello, piano)	Stoessel arr.	Birchard
Londonderry Air (Violin ensemble or string orchestra)	Irish—De Lamater	Rubank
*Orchestral Training (and Supplements. Varied instrumental combinations)	Wilson	J. Fischer
Sixteen Simple String Quartets	Winslow arr.	Birchard
*Ensemble Training (Transcriptions for three violins and piano. Sets I-III)	Bornschein	J. Fischer
Ensemble Players Library (Four violins)	Saenger	C. Fischer
Educational Symphonic Series (Four violins)		Peters
University String Orchestra Album	Stoessel	C. Fischer
Salut d' Amour (Violin, cello, piano)	Elgar	C. Fischer
Traumerei (String choir)	Schumann-Shilkret	Witmark
Calm as the Night (String Orchestra)	Bohm	C. Fischer
Nobody Knows the Trouble I See (String Quartet)	Bornschein arr.	J. Fischer
*Romanza (String Orchestra)	Schumann-Kramer	Birchard
*Transcriptions for String Orchestra	Kramer	Birchard
*Pastoral Symphony from "The Messiah" (String Orchestra)	Handel-Hoppin	Birchard

PART FOUR

MUSIC APPRECIATION AND HISTORY

I. Introduction

The well-organized school curriculum is based upon the fundamental needs of the students. In these days when music plays so important a part in the lives of all, and so few are equipped to make use of the listening opportunities that have been opened up by the radio and the phonograph, no more valuable course can be included in the curriculum than one that will develop an understanding and enjoyment of the music heard.

Listening to music on an intellectual basis is not common—rest, relaxation, and enjoyment are demanded by the average listener. The aim of the high school course in music appreciation and history is to develop in a student the ability to find these desired experiences in the best music. Elaborate attempts to analyze music will give students a wrong impression of the enjoyment possible from it and will prejudice them against it. This course has been outlined with the hope that it will help develop in our students a love for music, not simply by learning **about** it, but by:

Singing it
Playing it
Intelligently listening to it, and thus enlarging their musical experiences beyond those afforded by their own singing and playing

II. Administrative Problems

A. Classes per week and credit

The outline given below has been organized into definite divisions or units that may be taken up in the order that seems desirable according to the available material as well as the tastes and musical development of the students. If followed in detail it will provide sufficient work for daily classes, including assigned lessons as well as listening, singing and playing, for at least one year. Under such circumstances, one-half unit of credit per semester is a fair allowance. However, in case the work is given only two or three days per week, not all of the divisions in the outline can be studied, or if all are studied, the work on each will be brief. About one-fourth unit of credit per semester is a fair allowance under these circumstances, providing regular preparation is a part of the work.

III. General Procedure

A. Unit organization of the course

1. Application of unit plan

The work of this course has been outlined by units, each of which is separate from the others, yet closely related to them. These units may be studied in the order that seems best to the teacher. Folk music is suggested for the first unit because it is perhaps the most familiar of all to the pupil, material on it is easily secured, and through it opportunity is given for the participation of the class as a whole, so that all pupils are actively started in the work. However, if some other unit seems to be more feasible as an introduction, it should be used—the course must be made to fit the situation. If it is desired to give a more detailed and comprehensive course than is outlined, additional suggestions under each heading may be found in most of the texts suggested. Many more details are given in the Victor Educational Catalog and in the Course of Study in Junior and Senior High School Music for the State of Washington.

2. Teaching by the unit plan

It is suggested that the work in each unit may well be organized and taught according to the Morrison plan or an adaptation of it. This will require careful planning on the part of the teacher in choosing the assimilative material to be used, in order to keep the unit in focus and in selecting the projects and problems of interest and value to the various individuals in the class, etc. Great care must be taken to prevent the placing of too much stress upon knowledge of subject matter relating to the music, instruments, composers, etc., of the unit being studied, when this in any way tends to crowd out the broad experience with the music itself, which is the really important phase of the work.

The following general procedure is suggested as suitable for adjustment to the teaching of any of the units included in the course. These points have been adapted from those given for the teaching of courses in appreciation in **The Practice of Teaching in the Secondary School** by Morrison (University of Chicago Press). This book is suggested as extremely valuable for careful study by the teacher who expects to follow this plan.

a. Exploratory testing and choice of material within the understanding of the students

This pre-testing can include either or both written and oral tests, and these should be so broad in their scope as to make clear to the teacher the amount of information, however small, already held by the class on the subject dealt with in the unit. For example, in beginning the study of the unit on folk music, the class is given a pre-test on folk music which will show definitely how much general information on the subject the students already have: what folk music is; how it develops; its social, political, and geographical background; familiar examples from various countries, etc. This test should clearly define the differences in preparation for the work among the individuals in the class. With this information the teacher can decide upon the points to be covered by the unit and can avoid either needlessly repeating sections already familiar or beginning with work beyond the understanding of the students. Detailed information on this phase of the work is given in the chapter beginning on p. 255 in the Morrison book named above.

b. Presentation and illumination of the unit by the teacher (including examples of the music itself)

This is composed of a brief introductory sketch to give the class a clear idea of the entire unit they are about to study. Sometimes it is well to end this part of the work with a test in order to ascertain whether or not it has registered with the students. Details on the presentation and test are given in the section beginning p. 267 in the Morrison book.

c. Class discussion and assimilation

This is not in the nature of a recitation, but rather a general discussion of the unit. Since the type of work done in this course demands the constant participation of the entire class in singing and listening lessons, it is not possible to carry on individual work during the class period to the extent to which this is done in some other subjects. However, much of this is possible and work done outside of class should be almost entirely made up of individual projects. Individual reports on experience with music of the type studied should be included and close correlation made with music heard in radio concerts, vocal programs, etc. In this connection members of the class should learn to make constant use of all books, magazines, records, and music available. Special emphasis must be placed upon experiencing the music of the unit, while study about it is done simply as a means to the end of further understanding and enjoyment of that music. Many detailed suggestions for this phase of the work are given in the chapter beginning with p. 281 in the Morrison book.

d. Organization and recitation

After the assimilation period the class should briefly organize its acquired knowledge and should recite. However, as this is primarily an appreciation course, stress must not be put upon the subject matter outline to the point of tiring students, though of course, a certain definite understanding of the unit must have been gained.

The unsupervised preferences of students in the music of the unit will show very clearly the results of the study. The interest of students and their undertaking of additional voluntary projects aside from those assigned will also test the final value of the work. The teacher should give considerable attention to the studying and correcting of problem cases. A final test over the entire work of the unit is an interesting and valuable check for both teacher and students on the efficiency of the work.

B. Materials and their use

1. Texts

Of the texts suggested below in the bibliography it will be found that some are for music history only, and some for appreciation only. All of them are good, but it will be necessary for the teacher to adjust the material of any one of them that is used to the needs of the class. If one is chosen as the main text, the others should be available for reference and students should become familiar with all of them. In most cases it will be wiser to combine the two subjects (appreciation and history) into a course that develops appreciation through understanding of the historical background. Teachers will find it best to choose the various units of work to be covered and then have the class study each unit chosen, carrying it into detail as far as seems desirable, and making use of any material relative to it that may be found in the text, and in the supplementary references, and continually using available records and music of the type being studied. A well-organized course can be made in this way, as the teacher and pupils are free to stress points that seem important, and omit those that seem unimportant. If the general outline of the text is followed, it will not be possible to follow the unit plan of teaching, since some books are organized in a purely chronological order, while others include a heterogeneous succession of unrelated lessons, difficult for the student to correlate in his mind.

2. **Notebooks**

   When the procedure suggested above is followed, it will be found wise to have students keep notebook outlines of the work covered in order to have it clearly understood. However, this course should not be made a "notebook" course—the notebook is not the main project for the class—it is simply for the purpose of keeping the work done clear in the minds of the students. The making of the notebook outline can be made a part of the "Organization" step given above under the section on unit plan teaching.

3. **Music (Records, songs, etc.)**

   A large part of the work of the course should be devoted to making the acquaintance of a number of representative selections for each unit studied. This will be done by listening to records and to available performers, and by actual participation of the class in singing or playing the selections. For this purpose a set of song books containing a selection of the best folk and art songs in suitable arrangement should be available. Suggestions for these are given in the Bibliography for Music Appreciation and History below. A list of suggested records for use with each of the units is given in the outline of work for the unit. Whatever phase of the work is being studied, a good record played now and then, just for quiet listening and not in special connection with the work at hand, will do much to develop appreciation.

4. **Radio programs**

   Radio programs will furnish valuable experience for the appreciation class, especially in the part of the state where day-time reception is good. Several of the school programs broadcast weekly are excellent for class or assembly use. Outlines of each of these may be obtained in advance so that preparation may be made for the lesson; in some cases, even class notebooks may be secured. Materials available for use in such work are suggested in the Bibliography below.

C. Activities

Special activities for the study of each unit are included in the outline for that unit. The general activities of the music appreciation and history course should include the following:

1. Active listening
2. Passive listening
3. Singing (by members of the class and others)
4. Playing (by members of the class and others)
5. Study and discussion
6. Correlation of the subject with history, art, geography, science, etc.
7. Programs, including some program making, and musical criticism

Music memory contests are sometimes very stimulating to a class. Suggestions in regard to such contests are given in the section of the course devoted to that subject. Students also enjoy checking their progress from time to time by the use of tests such as the Kwalwasser Test of Music Information and Appreciation, published by the Bureau of Educational Research and Service, University of Iowa.

Additional activities will be included as the teacher sees fit. Pictures and clippings of interest to the class should be posted on a bulletin board. Some teachers find it worth while to allow a small amount of credit for each good clipping brought by a pupil for the bulletin board, as this encourages attention to information that may be gained through reading papers and magazines.

IV. Content

The following units have been included in the course:

Folk and national music and ballads
Art songs
Vocal classification
Instruments and instrumental ensembles
Song form
Instrumental forms
Choral music
Large vocal forms
Keyboard instruments and their music

Detailed outlines are given below.

A. First unit—Folk and national music and ballads

1. General outline

The general work of this Folk Music Unit should aim to include the following points in connection with the development of the folk music of the world:

a. Characteristics of folk music
  (1) Rhythmically and melodically simple
  (2) Ordinarily the result of a spontaneous impulse of the people themselves; sometimes composed
  (3) Strophic in form
  (4) A reflection of the innate feelings of the people among whom it originates

b. Results of contrasting influences on the development of characteristic national folk music, such as
  (1) Geographic—climate, occupations, life
  (2) Racial—social customs, religion, civilization, emotional reactions
  (3) Historical—government, results of outside influences, status of people

c. Distinct types of music developed in each country studied as a result of the influences given above
  (1) True and composed folk songs and ballads
  (2) Patriotic songs (also songs distinctly nationalistic though not patriotic)
  (3) Occupational songs
  (4) Social songs
  (5) Religious songs
  (6) Folk dances

d. Agencies in the development and spread of folk music
  (1) Instruments
  (2) Songs
  (3) Dances
  (4) Minstrels
  (5) Troubadours, minnesingers, etc.

e. Understanding of the use of folk material in musical compositions
   (1) Arrangements of folk music for concert use
   (2) Use of folk tunes as thematic material for compositions

2. **Procedure**

General suggestions on teaching are given above under "General Procedure". This study of folk music should include a great deal of singing and playing of folk songs and dances (by the class, by available performers, and on the phonograph). The books suggested below in the Bibliography for Music Appreciation and History provide suitable material for this work. It is very desirable also that some of the easier folk dances be learned if the situation makes such work seem feasible. The books of folk dances suggested above under "Operettas and Musical Plays" give directions for such dances. The work should continually be correlated with knowledge of the geography, history, literature, and present day news of the country being studied. This study of folk and national music should lead to a better understanding of other races and countries—to a broader international viewpoint. Special suggestions for the teacher will be found in **What We Hear in Music,** pp. 38-96, **Study Helps for Discriminating Listening**—Music Supervisors' Conference; **America and Her Music**—Stringfield, University of North Carolina, and in collections of folk music published by G. Schirmer.

3. **Detailed outline**

Most of the songs will be found in the song books suggested in the "Bibliography for Music Appreciation and History." Where records especially suited to the work are available, the record numbers are suggested after the name of the selection. V20043, C2057M, etc., refer to Victor record number 20043 and Columbia record 2057M, respectively. Additional suggestions will be found in the Educational Catalog of Victor Records.

a. **United States**
   (1) Patriotic songs
      (a) Revolutionary War period
         Yankee Doodle (foreign origin)—V20166
         Hail Columbia—Phile
      (b) War of 1812 period
         Star Spangled Banner (foreign origin)
      (c) Civil War period
         Battle Hymn of the Republic (John Brown's Body)
         Dixie—Emmett—V20166
         Battle Cry of Freedom—Root
         Tramp, Tramp, Tramp—Root
         When Johnny Comes Marching Home—Lambert
         Tenting on the Old Camp Ground—Kittredge
         Keller's American Hymn—Keller
      (d) World War period
         Keep the Home Fires Burning—Novello
      (e) National songs
         America (foreign origin)
         America the Beautiful—Ward
         Columbia the Gem of the Ocean
   (2) Folk composed music
      (a) Songs
         O Susanna—Foster
         Carry Me Back to Old Virginny—Bland—V19887
         Uncle Ned—Foster—V1265
         Old Black Joe—Foster—V1265

- (b) Dances
  - Virginia Reel; Old Dan Tucker—V20447
  - Pop Goes the Weasel—V20151
  - Money Musk—V19964
  - Uncle Steve's Quadrille—V20639
  - Arkansas Traveller—V20638
- (c) Instrument
  - Fiddle
- (d) Compositions based on folk music
  - New World Symphony—Dvorak—V6565-6569
  - Turkey in the Straw—Guion—C2002 M

(3) Negro music

- (a) Songs
  - Spiritual
    - Deep River—V20793
    - Were You There; Steal Away—V19742
    - Nobody Knows; Swing Low Sweet Chariot—V20068
    - Golden Slippers; Heaven Song—V20843
    - Good News—V20520
  - Social and Labor
    - Levee Song
    - The Year of Jubilo
    - Chain Gang Song—V19684
- (b) Instruments
  - Banjo
  - Guitar
- (c) Compositions based on negro music
  - Juba Dance—Dett—V21750

(4) Indian music

(Slides on "The Music of the American Indians" are available. See Bibliography.)

- (a) Songs
  - The Sun Worshippers
  - Hopi Indian Chants—V20043
  - Eskimo Songs—V22329
- (b) Dances
  - Hopi, Omaha, and Sioux Dances—V22174
- (c) Instruments
  - Tom-tom
  - Flute
  - Drum
- (d) Compositions based on Indian music
  - From the Land of the Sky-Blue Water—Cadman—V1140
  - By the Waters of Minnetonka—Lieurance—V21972
  - Aooah (Pueblo Indian Love Song)—Lieurance—V22316
  - From an Indian Lodge—MacDowell—V20342
  - War Dance—Skilton—V22144

(5) Cowboy songs

- The Old Chisholm Trail; Red River Valley—V21421
- Get Along Little Dogies; The Trail to Mexico—V40016

(6) Kentucky mountain songs

- Sourwood Mountain; Billy Boy; Frog Went a-Courting—V21751
- Naomi Wise; Zeb Turney's Gal—V19867

(7) College and social songs

- Good Night Ladies
- Good-by, My Lover, Good-by
- Our Boys Will Shine Tonight
- Aunt Dinah's Quilting Party
- The Bull Dog on the Bank

(8) Love songs and lullabies

- Slumber Boat—Gaynor—V21926
- O Promise Me—De Koven—V22051

(9) Hymns and revival tunes

- The Little Brown Church—V17982

b. England
- (1) Songs
  - (a) Patriotic
    - God Save the King—Carey
    - The Red, White and Blue
  - (b) Folk tunes
    - Begone, Dull Care
    - Oh Dear, What Can the Matter Be
    - Now Is the Month of Maying—Morley
    - Come Lassies and Lads
    - Summer Is a Coming In (Round)
    - O, No John—V4023
  - (c) Carols
    - Good King Wenceslaus
    - The First Nowell
  - (d) Ballads
    - The Wraggle Taggle Gypsies, O
  - (e) Love Songs and Lullabies
    - Drink to Me Only With Thine Eyes—V22081
    - Sweet and Low—Barnby—V21949
    - Golden Slumbers—V20986
  - (f) Nursery songs
    - Lavender's Blue; I Had a Little Nut Tree—V20986
    - The Mulberry Bush
    - A Frog He Would A-Wooing Go—V19830
- (2) Dances
  - Chelsea Reach—V20746
  - Sailor's Hornpipe—V21685
- (3) Compositions based on folk music
  - Country Gardens; Shepherds Hey—Grainger—V20802

c. Scotland
- (1) Songs
  - Loch Lomond; Comin' Thro' the Rye; Annie Laurie—V35878
  - The Campbells Are Coming
  - Scots Wha' Hae; Ye Banks and Braes—V4083
  - Oh, Charlie Is My Darling
  - John Peel (border song)—V4083; V19961
- (2) Dances
  - Highland Fling; Highland Schottische—V21616
- (3) Instruments
  - Bagpipes—V21181
  - Harp
- (4) Compositions based on folk music
  - Scotch Poem—MacDowell

d. Ireland
- (1) Songs
  - (a) Patriotic
    - The Wearing of the Green
    - The Minstrel Boy
  - (b) Folk tunes and ballads
    - Believe Me if all Those Endearing Young Charms—V22081
    - Kathleen Mavourneen—V19916
    - The Harp That Once Thro' Tara's Halls—V35878; V19916
    - Farewell to Cucullain (Londonderry Air)—V35781; V22166
    - Last Rose of Summer
- (2) Dances
  - Irish Washerwoman; St. Patrick's Day—V21616
  - Irish Jigs; Irish Hornpipes; Irish Reels—V79005
- (3) Instruments
  - Fiddle
  - Harp
  - Bagpipes—V21181
- (4) Compositions based on folk music
  - Molly on the Shore—Grainger—C2057 M
  - Irish Tune from County Derry—Grainger

- e. **Wales**
  - (1) Songs
    - (a) Patriotic
      - Men of Harlech
    - (b) Folk tunes
      - All Thro' the Night—V22082
      - The Ash Grove—V22166
      - Deck the Hall
  - (2) Instruments
    - Crwth
    - Harp
- f. **France**
  - (1) Songs
    - (a) Patriotic
      - Marseillaise—V6557
    - (b) Folk tunes
      - Dodo, Baby, Do
      - Au Clair De La Lune—V20351; V72165
      - Duke of Marlborough—V20152
      - The Shepherd Maiden
      - Going Through Lorraine; Are You Sleeping—V72166
    - (c) Ballads
      - Aucassin and Nicolette
  - (2) Dances
    - On the Bridge of Avignon—V22178; V72166; V19723
    - Farandole—V21685
  - (3) Compositions based on folk music
    - Two Grenadiers—Schumann—V6563
    - Overture 1812—Tschaikowsky—V9025-9026
- g. **Italy**
  - (1) Folk songs
    - Marianina
    - Funiculi, Funicula—V20080
    - Santa Lucia—V1204
    - O Sole Mio—V20248; V1099
  - (2) Dances
    - Tarantella—V68823
  - (3) Instruments
    - Accordion—V79310; V20282
    - Mandolin
    - Guitar
  - (4) Compositions based on folk music
    - Tarantelle—Mendelssohn—V20079
    - Gondoliera—Liszt
    - Carnival of Venice—Arban—Benedict—V6614
    - Tarantella—Pepoli—Rossini—V6031
- h. **Germany** (Also Austria and Switzerland)
  - (1) Songs
    - (a) Patriotic
      - The Watch on the Rhine—V20009
    - (b) Folk tunes
      - Zu Lauterbach (Where Oh Where Has My Little Dog Gone)—V6009
      - The Fir Tree
      - The Loreley—V80237
      - Ach du Lieber Augustin—V78490
      - Gaudeamus Igitur
      - How Can I Leave Thee—V3042
      - Silent Night—Gruber—V78946; 19820
      - A Mighty Fortress—Luther—V35920
      - Song of the Mountain Rigi—(Swiss)—V78623
    - (c) Lullabies
      - Cradle Song; The Little Dustman—Brahms—V22160
      - Sleep, Baby, Sleep—V20395
    - (d) Nursery songs
      - Susie, Little Susie—V22175
      - Swallow, Good-Bye

- (2) Dances
  - Waltz—V9308
  - Kinderpolka—V20432
  - Bummel Schottische; Broom Dance—V20448
  - Landler—V78598
- (3) Instruments
  - Zither—V78598
  - Alphorn
- (4) Compositions based on folk music
  - Hansel and Gretel—Humperdinck—V22175-22176
  - Emperor Quartet—Haydn—V6634
  - Blue Danube Waltz—Strauss—V6584
  - Liebesfreud—Kreisler—V6608
  - Caprice Viennois—V6692

i. Spain
- (1) Songs
  - La Paloma; La Golondrina (The Swallow)—Mexican—V1141
  - Flee as a Bird
  - In Old Madrid—V1179
- (2) Dances
  - Bolero—V80194
  - Tango (South American)—V79723; V21393
  - Jota—V81260
  - Fandango
- (3) Instruments
  - Castanets—V46420
  - Tambourine
  - Guitar—V79805
  - Mandolin
- (4) Compositions based on folk music
  - Habanera (Carmen)—Bizet—V1145
  - Spanish Dance—Granados—V35977
  - Tango—Albeniz-Kreisler—V1339
  - Seguidilla—Albeniz
  - Spanish Caprice—Rimsky-Korsakow—V6603
  - Jota—de Falla—V1153

j. Scandinavia
- (1) Songs
  - O Vermeland Thou Lovely (Swedish)—V19923
  - When I Was Seventeen (Swedish)—V1156
  - The Herd Girl's Sunday (Norwegian)—Bull—V35885
- (2) Dances
  - Ace of Diamonds (Danish); Bleking (Swedish)—V20989
  - Shoemaker's Dance (Danish); Klappdans (Swedish)—V20450
  - Norwegian Mountain March—V20151
  - I See You (Swedish); Dance of Greeting (Danish)—V20432
- (3) Compositions based on folk music
  - Peer Gynt Suite (Norwegian)—Grieg—V4014, V35793; V20245
  - Finlandia (Finnish)—Sibelius—V9015
  - Norwegian Bridal Procession—Grieg—V20805
  - Wedding Day at Troldhaugen (Norwegian)—Grieg—C7150M
  - Swedish Wedding March—Soderman—V20805

k. Russia
- (1) Songs
  - Song of the Volga Boatman—V20309
  - Russian National Hymn—V69229
  - The Cossack's Lullaby
- (2) Dances
  - Hopak—V81920
  - Trepak
- (3) Instruments
  - Balalaika—V78991; V19960
- (4) Compositions based on folk music
  - 1812 Overture—Tschaikowsky—V9025-9026
  - Marche Slav—Tschaikowsky—V6513
  - Andante Cantabile—Tschaikowsky—V6634
  - In the Village—Ippolitow-Ivanow—V6514
  - Song of India—Rimsky-Korsakow—V45531
  - Hopak—Moussorgsky—V1161
  - Troika—Tschaikowsky—V6857
  - Danse Russe—(Nutcracker Suite)—Tschaikowsky—V6615

- l. **Poland**
  - (1) Dances
    - Polonaise—V19670
    - Mazurka—V81775
  - (2) Compositions based on folk music
    - Mazurkas—Chopin (A Minor—V6879)
    - Polonaises—Chopin (B flat Major—V6921)
    - Polish Dance—Scharwenka—V20203
- m. **Hungary and Bohemia**
  - (1) Songs
    - Where Is My Homeland—(Bohemian National Air)—V79182
    - Hush-a-Bye Angel—V20395
  - (2) Dances
    - Czardas (Hungarian)—V81321; V79456
    - Polka (Bohemian)
  - (3) Instruments
    - Cembalon (Hungary)—V20841
    - Bagpipes (Bohemia)
  - (4) Compositions based on folk music
    - Hungarian Rhapsodies—Liszt—(No. II—V6626)
    - Hungarian Dances—Brahms (No. V—V20841)
    - Songs My Mother Taught Me—Dvorak—V1319; V20494
    - Slavonic Dances—Dvorak (No. I in G Minor—V6649)
    - The Moldau—Smetana—V21748-21749
    - Rakoczy March—Berlioz—V6823
    - Polka (Fairy Tales)—Suk—V6649
    - Bohemian Dance—Smetana—V7121
- n. **Oriental**
  - (1) Songs
    - Jasmine Flower (Chinese)—V20395
    - Japanese National Hymn—V50273
  - (2) Instruments
    - Samisen, koto, flute—Japanese—V50170; V11260; V11002; V50314
    - Vina, flute—Indian—VP4284; VP5865
    - Lute (oud), rebec—Arabian—V73466
    - Ken, cheng, flute, drum, gong—Chinese—V42480; V42933
    - Cairo Street Band—V63509
  - (3) Compositions based on folk music
    - Chinese Dance (Nutcracker Suite); Arabian Dance (Nutcracker Suite)—Tschaikowsky—V6616
    - Orientale—Cui—V1354
    - Song of India—Rimsky-Korsakow—V45531
    - Anitra's Dance (Peer Gynt Suite)—Grieg—V20245
    - Scheherazade Suite—Rimsky-Korsakow—V6738-6742
    - One Fine Day (Madame Butterfly)—Puccini—V6790

B. Second unit—Art songs

1. General outline

The study of the art song aims to give students an acquaintance with, and an understanding of, the best song literature, and to arouse in them an interest in song composers. The work should include experiences that will call to their conscious attention the following details about the songs they hear:

- a. Themes and moods
- b. Forms (strophic or through-composed)
- c. Type of accompaniment
- d. Closeness of words and music
- e. Mode (major or minor)
- f. Marked characteristics of certain composers as shown in their songs

2. Procedure

General teaching suggestions are given above under "General Procedure". The work should include singing many of the simpler art songs and listening to others as performed by available singers or by the use of the phonograph. The song books suggested below in the Bibliography for Music Appreciation and History provide much suitable material for this work. The contrasting types of songs—patriotic, love, humorous, tragic, imaginative, tender, dramatic, etc., will give variety to the study. This work should be closely correlated with that done under the Third unit—Vocal classification. The work as outlined here for study is arranged in chronological order. If desired, this order can be reversed and the modern songs studied first. Special suggestions for the teacher will be found in **Outlines of Music Appreciation**, Hamilton; **Music Appreciation for the Student**, Erb; **Study Helps for Developing Discriminating Listening**, Music Supervisors' Conference

3. **Detailed outline**

Many of the songs will be found in the song books suggested in the Bibliography below. Where records especially suited to the work are available, the record numbers are suggested after the name of the selection. V20043, C2057M, etc., refer to Victor record 20043 and Columbia record 2057M, respectively.

a. Classical period

Arne—Lass With the Delicate Air—V132453
Haydn—My Mother Bids Me Bind My Hair
Bishop—Lo, Here the Gentle Lark—V6593
Mozart—The Violet
Bach—My Heart Ever Faithful

b. Romantic period

Schubert —The Erlking—V6704
  The Linden Tree—V6846; V20737
  Serenade—V6703
  Hark, Hark, the Lark—V4008
  Who Is Sylvia—V4008
  Ave Maria—V6691
  By the Sea
  The Trout
  Hedge Roses
Schumann —The Two Grenadiers—V6583
  The Lotus Flower
  Dedication
  Thou'rt Like Unto a Flower
Franz —The Rose Complained
  Dedication
  Out of My Soul's Deep Sadness
Brahms —Cradle Song
  The Little Dustman
  Sapphic Ode
Grieg —The First Primrose
  I Love Thee
  Solvejg's Song—V6924
  The Swan
Wolf —To Rest, To Rest
Mendelssohn —On the Wings of Song—V6848
Liszt —The Loreley
Rubinstein —Thou'rt Like Unto a Flower
  The Asra

c. Modern period

Strauss —All Soul's Day
MacDowell —Thy Beaming Eyes
  The Swan Bent Low—V4017
Debussy —Mandoline
  The Bells
Chadwick —Ballad of the Trees and the Master
Massenet —Elegie—V6599
Gretchaninoff —Cradle Song—V7111
Tschaikowsky —None But a Lonely Heart—V1306
Dvorak —Songs My Mother Taught Me—V1306
Rimsky-Korsakow —Song of India—V45531
Moussorgsky —Song of the Flea—V6873
Beach —The Year's at the Spring

C. Third unit—Vocal classification

1. Procedure

General teaching suggestions are given above under "General Procedure". The work in this unit should be closely correlated with that under the Second unit—Art songs, and the Eighth unit—Large vocal forms. In some cases it may be found wise to combine this division entirely with the other two mentioned. Attention to the types of voices of members of the class and of singers heard, to the make-up of vocal ensembles heard, and to famous singers and items of interest about them, will make the work of immediate value. Students should learn that two important points: (a) quality and (b) range, distinguish the various types of voices from one another. Special suggestions for the teacher will be found in **What We Hear in Music**, pp. 18-23, and in **Study Helps for Developing Discriminating Listening**, Music Supervisors' Conference.

2. General outline

Where records especially suited to the work are available, record numbers are suggested. V4014 and C4048M refer to Victor record 4014 and Columbia record 4048M, respectively.

a. Solo voices

Understanding of the means of distinguishing between the various types of voices studied, and understanding of the type of music suited to each should be developed.

(1) Soprano

(a) Lyric

Solvejg's Song—Grieg—V4014
Annie Laurie—Scott—V1226

(b) Dramatic

Elegie—Massenet—V6599
Hear Ye, Israel (Elijah)—Mendelssohn—V9104
Senta's Ballad (The Flying Dutchman)—Wagner—V6577

(c) Coloratura

Air and Variations—Proch—V6784
Lo, Here the Gentle Lark—Bishop—V6593
Shadow Song (Dinorah)—Meyerbeer—V1174
Bell Song (Lakme)—Delibes—V1502

(2) Mezzo-Soprano

My Heart at Thy Sweet Voice (Samson and Delilah)—Saint-Saens V6531
Flower Song (Faust)—Gounod—V6618
Habanera (Carmen)—Bizet—V1145

(3) Contralto

The Erlking—Schubert—V6273
O, Rest in the Lord (Elijah)—Mendelssohn—V6556
I Have Lost My Euridice—V6803

(4) Tenor

(a) Lyric

None but a Lonely Heart—Tschaikowsky—V1306
Kathleen Mavourneen—Crawford-Crouch—V6776
Ah, Moon of My Delight—Lehmann—V9014

(b) Operatic

Celeste Aida (Aida)—Verdi—V6595
Woman is Fickle (Rigoletto)—Verdi—V500

(5) Baritone

In Old Madrid—Bingham—V1179
O Sole Mio (Italian Folk)—V1263
Toreador Song (Carmen)—Bizet—V8124
Two Grenadiers—Schumann—6563

b. Vocal ensembles

Understanding of the meanings of the terms used, and of the importance of blending, balance, etc., in such ensembles, should be developed.

- (1) Small ensembles
    - (a) Duets
        - Mixed
            - Home to Our Mountains (Il Trovatore)—Verdi—V8105
        - Men's
            - Swear in This Hour (Forza del Destino)—Verdi—V8069
    - (b) Trios
        - Women's
            - Lift Thine Eyes (Elijah)—Mendelssohn
        - Mixed
            - La Vergine (Forza del Destino)—Verdi—V8097
            - Praise Ye (Attila)—Verdi
    - (c) Quartets
        - Men's
            - Golden Slippers—V20843
            - Song of the Volga Boatmen—C4048M
        - Mixed
            - Quartet (Rigoletto)—Verdi—V10012
    - (d) Sextettes
        - Mixed
            - Sextette (Lucia di Lammermoor)—Donizetti—V10012
            - The Turtle Dove (Madrigal)—VE446
- (2) Large ensembles—Choruses, glee clubs, choirs, etc.
    - (a) Mixed
        - A Cappella
            - Beautiful Saviour (Crusader's Hymn)—V35813
            - Hospodee Pomeeloy (Russian Hymn)—V78890
            - Celestial Voices—Alcock—V20468
        - Accompanied
            - He Watching Over Israel (Elijah)—Mendelssohn—V35829
            - Hallelujah Chorus (The Messiah)—Handel—V35768
    - (b) Men's
        - John Peel (Old English)—V19961
        - Pilgrim's Chorus (Tannhauser)—Wagner—V20127
        - Song of the Volga Boatmen—C5066; V20309
    - (c) Women's
        - Comes a Train of Little Ladies (The Mikado)—Sullivan—V35863
        - Braid the Raven Hair (The Mikado)—Sullivan—V35866

c. Tone quality

Ability to discriminate between good and bad quality of tone should be developed.

d. Famous singers

Familiarity with well-known vocal soloists and ensembles of the past and present should be developed.

- (1) Soloists
    - (a) Past—Jenny Lind, Patti, Caruso, Gadski
    - (b) Present
        - Soprano —Alda, Bori, Farrar, Galli-Curci, Garden, Gluck, Hempel, Jeritza, Lewis, Macbeth, Pons, Ponselle, Raisa, Rethberg, etc.
        - Contralto—Braslau, Homer, Matzenauer, Onegin, Schumann-Heink, Van Gordon, etc.
        - Tenor —Crooks, Gigli, Graveure, Johnson, Lauri-Volpi, Martinelli, McCormack, Schipa
        - Baritone —De Gogorza, De Luca, Scotti, Tibbett, Werrenrath, etc.
        - Bass —Chaliapin, Journet, Pinza, etc.

(2) Ensembles

English Singers (See p. 876), St. Olaf's Choir, Dayton Westminster Choir, Kedroff Quartet, Don Cossack Choir, Russian Symphonic Choir, Metropolitan Opera Chorus, etc.

D. Fourth unit—Instruments and instrumental ensembles

1. Procedure

General teaching suggestions are given above under "General Procedure." The work in this unit should be closely correlated with that done under the Sixth unit—Instrumental forms. If possible, as the various instruments are studied they should be demonstrated by members of the class, or members of the school band and orchestra. Correlation of the study of their development from primitive times, and of the earliest orchestras and their instrumentation, etc., will be of interest to the students, and will give them an understanding of the examples of early (as well as modern) music that they study. This is one of the most fascinating phases of work to the average student. Special suggestions for the teacher will be found in **Listener's History of Music**, Vol. I, pp. 122-143; **What We Hear in Music**, pp. 24-25, 185-237, 248-274; **Instruments of the Orchestra**, by Smith; **Musical Instruments**, by Kelley; slides: **Historical Musical Instruments and Instruments of the Modern Symphony Orchestra and Band**; and **Study Helps for Discriminating Listening**, Music Supervisors' Conference.

2. General outline

Where records especially suited to the work are available, record numbers are suggested. In most instances, several selections are suggested under each point in the outline in order to provide a choice. While all of those listed are valuable, and each one added to the record library will furnish experience for the students, still it is possible for a class to do good work with access to only a few well-chosen examples. In some cases it will be found that one record can give satisfactory examples of several instruments. V20043, C 5066, etc., refer to Victor record 20043 and Columbia record 5066, respectively. Victor records 20522 (string and wood-wind) and 20523 (brass and percussion) include solo examples of each instrument. Many of the other records suggested include examples of several instruments.

a. Choirs of instruments

(1) String

(a) Recognition of each instrument by sight and sound. V20522 includes a solo example of each string instrument.

Violin

Solo

Caprice Viennois—Kreisler—V6692
Meditation (Thais)—Massenet—V6844
Serenata—Moszkowski—V20079
Humoresque—Dvorak—V20164

Combinations

Canzonetta—Gaspari (violin, cello, harp); Go Pretty Rose—Marzials (flute and violin)—V19926
Valse Brilliant—Chopin (violin and viola)—V20161
Berceuse (Jocelyn)—Godard (violin, cello, harp)—V20130
Spring Song—Mendelssohn— (violin, cello, flute, harp)—V20195
Fugue No. 7—Bach (violin, clarinet, bassoon)—V19956
See also under "Instrumental Ensembles" below for String Trio, String Quartet, etc.

Viola

Solo

Lullaby—Brahms—V20174
Minuet—Paderewski—V20164
Chaconne—Bach—C67071-D, C67072-D

Combinations

Air (La Juive)—Halévy (viola and English horn)—V20150
Also see above under "Violin"

In orchestra

In the Village—Ippolitow-Ivanow (viola and English horn)—V6519
Reverie du Soir—Saint-Saens—V9296
Andante (Fifth Symphony)—Beethoven (violas and cellos)—V9030

Violoncello

Solo

The Swan—Saint-Saens—V1143
Cradle Song—Schubert—V20079
Evening Star (Tannhauser)—Wagner—V6620, V20801

Combinations

Voice of Love—Schumann (flute and cello)—V20150
See also above under "Violin"

In orchestra

Andante (Fifth Symphony)—Beethoven (violas and cellos)—V9030
First Movement (Unfinished Symphony)—Schubert—V6663

String bass

In orchestra

Marche Slav—Tschaikowsky—V6513
Scherzo (Fifth Symphony)—Beethoven—V9031
O Vermeland, Thou Lovely—V19923
First Movement (Sixth Symphony)—Tschaikowsky—V9050

Harp

Solo

Autumn—Thomas—V20426
Home Sweet Home—Bishop—V4001

Combinations

See above under "Violin"

In orchestra

Gavotte (Mignon)—Thomas—V6650
Waltz of the Flowers (Nutcracker Suite)—Tschaikowsky—V6617
Magic Fire Music (Die Walküre)—Wagner—V9006

(b) Tone production and special effects

Pizzicato

Ballet from "Sylvia"—Delibes—V1166
Spanish Caprice—Rimsky-Korsakow—V6603
Harlequin's Serenade (I Pagliacci)—Leoncavallo—V1183

Harmonics

Prelude (Lohengrin)—Wagner—V6791
Spanish Caprice—Rimsky-Korsakow—V1185, V6603
Persian Song—Glinka-Zimbalist—V1154

Tremolo

Overture (Der Freischutz)—Weber—V6705
Prelude to Act III (Lohengrin)—Wagner—V9005
Overture (The Flying Dutchman)—Wagner—V6547

Muted strings (con sordino)

Ending of Pathetique Symphony—Tschaikowsky—V9054

Obbligato

Ave Maria —Bach-Gounod—V8032

Col legno

Danse Macabre—Saint-Saens—V6505

Double-stopping

Aloha Oe—Liliuokalani-Kreisler—V1115
Girl with the Flaxen Hair—Debussy—V6622

Vibrato

Liebesfreud—Kreisler—V6608

Tone quality of various strings
Air for G String—Bach—V7103
Overture (Euryanthe)—Weber—(E string)—V9398

(c) History of the instruments
Early instruments—harp, lute, crwth, rebec, fiddle, etc.

Famous violin makers—Gasparo, Amati, Guarnerius, Stradivarius, Stainer

(d) Famous players—past and present
Past
Paganini, Joachim, Bull, Powell, Vieuxtemps, etc.

Present
Violin—Kreisler, Elman, Thibaud, Spaulding, Zimbalist, Heifetz, Menuhin, Chemet, Kubelik, Ricci, etc.
Cello—Casals

(2) Wood-wind
(a) Recognition of each instrument by sight and sound. V20522 includes a solo example of each wood-wind instrument.

Non-reed instruments
Piccolo
Solo
Song of the Nightingale—Filipovsky—V20426
Badinage—Herbert—V20164

Combinations
Vivate Bacchus—Mozart (piccolo and bassoon)—V19926
Dixie—Emmett (piccolo and drums)—V20166

In orchestra
Chinese Dance (Nutcracker Suite)—Tschaikowsky—V6616
Will-o' the-Wisp (Damnation of Faust)—Berlioz—V20522

Flute
Solo
Whirlwind—Krantz—V20525
Wind Amongst the Trees—Briccialdi—V20344
Elfin Dance—Grieg—V20079

Combinations
Tarantelle—Mendelssohn (flute and clarinet)—V20079
Nocturne—Chopin (flute and clarinet)—V20161
See also above under "Violin" and "Violoncello"

Obbligato
Shadow Song (Dinorah)—Meyerbeer—V1174
Lo, Here the Gentle Lark—Bishop—V6593

In orchestra
Dance of the Flutes (Nutcracker Suite)—Tschaikowsky—V6616
Scherzo (Midsummer Night's Dream)—Mendelssohn—V6676
Suite in B Minor for Flute and Strings—Bach—C67069-D, C67070-D
The Calm (William Tell Overture)—Rossini—V20607

Single reed instruments
Clarinet
Solo
Nocturne in D Flat—Chopin—V20161

Combinations
Romance—Halévy (clarinet and bassoon)—V20150
Morning (Peer Gynt Suite)—Grieg—V19926
Waltz—Brahms (two clarinets)—V20079
Also see under "Violin" and "Flute"

In orchestra
Flight of the Bumble Bee—Rimsky-Korsakow—V6579
First Movement (Unfinished Symphony)—Schubert—V6664-6665
Andante (Pathetique Symphony)—Tschaikowsky—V9050

- Bass clarinet
  - Solo
    - Coronation March (The Prophet)—Meyerbeer—V20150
  - In orchestra
    - Dance of the Sugar Plum Fairy (Nutcracker Suite)—Tschaikowsky—V6615
    - Arab Dance (Nutcracker Suite)—Tschaikowsky—V6616
- Double reed instruments
  - Oboe
    - Solo
      - Serenade—d'Ambrosio—V20161
      - Andantino—Thomas—V20079
    - Combinations
      - Cavatina—Beethoven (oboe and French horn)
      - See also under "Clarinet"
    - In orchestra
      - Bridal Song (Rustic Wedding Symphony)—Goldmark—V35988
      - Praeludium—Jarnefelt—V20374
      - Funeral March (Eroica Symphony)—Beethoven—V9044, 9045, 9046
  - English horn
    - Solo
      - Shepherd's Song (Tannhauser)—Wagner—V20150
    - Combinations
      - See under "Viola"
    - In orchestra
      - In the Village—Ippolitow-Ivanow (viola and English horn)—V6514
      - Largo (New World Symphony)—Dvorak—V6566-6567
      - The Calm (William Tell Overture)—Rossini—V20607
  - Bassoon
    - Solo
      - Scherzo (Third Symphony)—Beethoven—V20164
      - Hungarian Fantasie—Weber—V30525
    - Combinations
      - See under "Piccolo," "Clarinet" and "Violin"
    - In orchestra
      - In the Hall of the Mountain King (Peer Gynt Suite)—Grieg—V20245
      - The Sorcerer's Apprentice—Dukas—V7021
      - Chinese Dance (Nutcracker Suite)—Tschaikowsky—V6616

(b) Means of tone production
Non-reed, single reed, double reed

(c) History of the instruments
Fife, shawn, musette, bagpipes, etc.

(3) Brass

(a) Recognition of each instrument by sight and sound. V20523 includes a solo example of each brass instrument

- Trumpet or cornet
  - Trumpets only
    - Light Cavalry Overture—von Suppe—V20079
    - Minuet—Beethoven—V20164
  - Combinations
    - Serenade—Schubert (cornet and trombone)—V19926
  - In orchestra
    - Finale (William Tell Overture)—Rossini—V20607
    - Lenore Overture No. III (Part II)—Beethoven—V6906
    - March Militaire Française—Saint-Saens—V9296
- French horn
  - Combinations
    - See under "Oboe"

In orchestra
Nocturne (Midsummer Night's Dream)—Mendelssohn—V6677
Overture (Mignon)—Thomas—V6650
Andante (Fifth Symphony)—Tschaikowsky—V6779

Trombone

Solo
The First Nowell—V20174

Combinations
See under "Trumpet"

In orchestra and band
Cujus Animam (Stabat Mater)—Rossini—V35800
Vesti la Guibba (I Pagliacci)—Leoncavallo—V35791
Overture (Tannhauser—Part III)—Wagner—V9060

Tuba

In orchestra
Siegfried's Death March—Wagner—V9049
Torchlight Dance No. I—Meyerbeer—V20637
Finlandia—Sibelius—V9015

(b) Means of tone production
Understanding of terms: embouchure, valves, slides, etc.

(c) History of the instruments
Hunting horn, military trumpet, etc.

(4) Percussion

(a) Recognition of each instrument by sight and sound. V20523 includes a solo example of each percussion instrument.

Instruments producing definite pitch

Tympani (kettle-drums)

In orchestra
Symphony No. 5 in C Minor—Beethoven (end of Scherzo)—V9031
Siegfried's Death March—Wagner—V9049

Xylophone

Solo
Gavotte—Gretry; Gavotte—Mozart—V20440

In orchestra
Danse Macabre—Saint-Saens—V6505

Chimes

Solo
Christmas Melodies—V20993

In orchestra
Overture 1812—Tschaikowsky—V9026

Bells and glockenspiel

Solo
Minuet—Gluck; Minuet—Mozart—V20440
Legend of the Bells (Chimes of Normandy)—Planquette—V20164

Combinations
Lullaby—Emmett (bells and celesta)—V19926
Evening Bells—Kullak (bells and celesta)—V20079

In orchestra
Dance of Apprentices (Die Meistersinger)—Wagner—V9060
Bell Song (Lakme)—Delibes—V1502

Celesta

Solo
Waltzing Doll—Poldini—V20161

Combinations
See under "Bells"

In orchestra
Dance of the Sugar Plum Fairy (Nutcracker Suite)—Tschaikowsky—V6615

Instruments not producing definite pitch
- Bass drum
  - In orchestra
    - Spanish Caprice—Rimsky-Korsakow—V6603
- Snare drum
  - Combinations
    - Dixie—Emmett (piccolo and drums)—V20166
  - In orchestra and band
    - Spanish Caprice—Rimsky-Korsakow—V1185
    - Semper Fidelis March—Sousa—V20979
- Tambourine
  - In orchestra
    - Arab Dance (Nutcracker Suite)—Tschaikowsky—V6616
    - Overture (Carnaval Romain)—Berlioz—V9207
- Tom-tom
  - Folk music
    - Hopi Indian Chants—V20043
  - In orchestra
    - In the Village—Ippolitow-Ivanow—V6514
- Castanets
  - In orchestra
    - Spanish Serenade—Bizet—V20521
- Cymbals
  - In orchestra
    - Overture (Tannhauser)—Wagner—V9059-9060
    - Bacchanale (Samson and Delilah)—Saint-Saens—V6823
- Triangle
  - In orchestra
    - Magic Fire Music (Die Walküre)—Wagner—V9006
- Gong
  - In orchestra
    - Finale (Pathetique Symphony)—Tschaikowsky—V9054

(b) Means of tone production

(c) History of the instruments
Primitive and oriental ancestry; importance in folk music

b. Instrumental ensembles
- (1) String trio
  - (a) Instruments
    Violin, cello, piano
  - (b) Music
    - Arlesienne—Bizet-Kreisler—V8090
    - Gypsy Rondo—Haydn—V3046
- (2) String quartet
  - (a) Instruments
    Violin I, Violin II, Viola, Cello
  - (b) History
    Work of Haydn
  - (c) Famous String Quartets
    Flonzaley, London, Elman, Lener, etc.
  - (d) Music
    - Andante Cantabile—Quartet Op. II—Tschaikowsky—V6634
    - Andante (Emperor Quartet)—Haydn—V6634
    - Quartet in D Major—Haydn—V6701-6702
- (3) String orchestra
  - (a) Music
    - Evening Song—Schumann; Traumerei—Schumann—V19854
    - O Vermeland—Swedish Folk—V19923
    - Heart Wounds—Grieg—V4022

- (4) Wood-wind ensembles
  - (a) Music
    - A Pleasant Way—Kullak (quintette)—V20079
    - The Music Box—Liadow—V19923
- (5) Brass ensembles
  - (a) Music
    - Torchlight Dance No. I—Meyerbeer—V20637
- (6) Symphony orchestra
  - (a) History
    - Early instruments
    - Orchestras of Bach, Haydn, and Mozart
    - Gradual addition of instruments
    - Contributions of Beethoven, Berlioz, Wagner, etc., to the orchestra
    - The modern orchestra
    - Instrumentation, balance, size, seating, concert master, conductor, etc.
  - (b) Famous orchestras of today
    - Philadelphia Symphony
    - New York Philharmonic Symphony
    - Chicago Symphony
    - San Francisco Symphony
    - London Symphony
    - Hollywood Bowl Orchestra
    - Boston Symphony, etc.
  - (c) Famous conductors
    - Past: Theodore Thomas
    - Present: Stokowski, Stock, Toscanini, Hertz, Damrosch, Ronald, Goossens, Koussevitsky, Coates, Mengelberg, Walter, Leginska, etc.
  - (d) Music (See also under "F—Instrumental Forms")
    - Surprise Symphony—Haydn—V7058-7060
    - Fifth Symphony—Beethoven—V9029-9032
    - Rakoczy March—Berloiz—V6823
    - Prelude (Lohengrin)—Wagner—V6791
    - Nutcracker Suite—Tschaikowsky—V6615-6617
    - Fire Bird Suite—Stravinsky—V6773-6775
- (7) Band
  - (a) Instrumentation and use
    - Military and concert bands
  - (b) Famous bands and conductors
    - Sousa's Band, United States Marine Band, etc.
  - (c) Music
    - Cujus Animam (Stabat Mater)—Rossini—V35800
    - Vesti la Guibba (I Pagliacci)—Leoncavallo—V35791
    - Semper Fidelis March—Sousa—V20979
    - Stars and Stripes Forever—March—Sousa—V20132

E. Fifth unit—Song form

1. Procedure

General teaching suggestions are given above under "General Procedure." This unit should be a brief study of the fundamentals underlying form in music, and should provide a basis for the study of the more elaborate and varied forms. It should be closely correlated with the First unit—Folk music, and the Sixth unit—Instrumental forms, and in some cases may profitably be entirely combined with these other sections. The work should begin with the recognition of repeated themes and should include the study of the forms mentioned below and also of more elaborate types, if the situation warrants. The principles of repetition and contrast should be especially stressed. For students beginning such work, the making of theme patterns of the ABA type will be of interest and assistance. Attention should be called to the form of the songs sung and of any simply constructed instrumental compositions heard. Special suggestions for the teacher will be found in: **The Appreciation of Music,** Welch, pp. 27-72; **What We Hear in Music,** pp. 28-31; **Music and Romance,** pp. 45-50; **Study Helps in Discriminating Listening,** Music Supervisors' Conference.

2. **General outline**

Where records especially suited to the work are available, record numbers are suggested. V20043, C5066, etc., refer to Victor record 20043 and Columbia record 5066, respectively.

a. Theme recognition
   Dance of the Hours—Ponchielli—V35833
   Rondino—Beethoven-Kreisler—V1386
   Ecossaises—Beethoven—V21012
   Pirouette—Finck—V20416

b. One-part song form (only one theme in a composition)
   The Wild Horseman—Schumann—V1178
   O Vermeland—Swedish Folk—V19923

c. Two-part song form (Two themes ABA)
   Drink to Me Only With Thine Eyes (AABA)
   Swanee River—Foster
   All Through the Night—Welsh Folk

d. Compositions having three or more themes
   Amaryllis—Ghys—V20169
   March (Nutcracker Suite)—Tschaikowsky—V6615
   Humoresque—Dvorak—V6692

e. Rondo
   Amaryllis—Ghys—V20169
   Rondino—Beethoven-Kreisler—V1386
   Gypsy Rondo—Haydn—V3046
   Round of the Goblins—Bazzini—V6159
   Ecossaises—Beethoven—V21012

f. Theme and variations
   The Harmonious Blacksmith—Handel—V1193
   Andante (Surprise Symphony)—Haydn—V7059
   Carnival of Venice—Arban-Benedict—V6614
   Andante (Fifth Symphony)—Beethoven—V9030

g. Three-part song form (Song form with trio)
   Gavotte—Beethoven—V1136
   Minuet—Paderewski—V20169

F. Sixth unit—Instrumental forms

1. **General aims**

a. To develop in students the ability to listen to a familiar or new selection, find the main theme, and follow the general structure of the composition with some degree of understanding and individual interpretation

b. To develop in students the ability to intelligently like or dislike the instrumental music they hear because they know how to listen to it

c. To build up a listening repertoire of a few of the best selections from each group given below

2. **Procedure**

General teaching suggestions are given above under "General Procedure." This work should be closely correlated with the study of the Fourth Unit—Instruments and instrumental ensembles, the Fifth unit—Song forms, and the Ninth unit—Keyboard instruments and their music. Care should be taken that the work does not develop into a purely analytical study of each form, rather than a growing enjoyment of music in that form through increased understanding of it. The class work should be kept in close touch with current radio programs. Special suggestions for the teacher will be found in **What We Hear in Music**, pp. 244-274; **The Appreciation of Music**, Welch, pp. 73-140; **Listener's History of Music**, Vol. I, pp. 101-121; **Masters of the Symphony**, Goetschius; slides—**Symphony Studies**, Rhetts; **Study Helps for Developing Discriminating Listening**, Music Supervisors' Conference.

Study of the various forms should be accompanied by some knowledge of the following points:

a. Types of part music—polyphonic, homophonic, etc.
Students should learn to classify readily, as to type, any music heard. Development of power to enjoy polyphonic music will require first of all familiarity with a few interesting selections. The singing of rounds may serve to begin this study.

b. Mode in music—major and minor
Quick aural recognition of mode should be developed. Students are interested in noticing the effect the mode of the music may have on the mood it expresses.

c. Program music and absolute music
By "program music" is meant "music which by its title, or a descriptive analysis, or its words, action, scenery or accompanying pictures, tells a story, indicates a definite episode, and hence follows a distinct program. 'Absolute music', on the other hand, is music that depends entirely on its own material to establish a mood or create directly an emotional or intellectual response. It has no descriptive title, nor does it lean on any other extraneous factors for support. It is music, pure and simple, with nothing but tones and time to carry its message." (Spaeth in **The Common Sense of Music.**)

To begin with, any stories or descriptive settings associated with the compositions studied should be read and discussed as to their appropriateness. As soon as possible, an attempt should be made to develop in students individuality in interpretation. They should be encouraged to decide for themselves whether music heard is absolute or descriptive to them, and if descriptive, just what it describes.

d. Styles of music and their characteristics
    (1) Styles and periods
        (a) Classical
        (b) Romantic
        (c) Modern
        (d) Ultra-modern
            Impressionistic
            Realistic
    (2) Composers associated with each style and period
        (a) Extent of development of instruments and instrumental ensembles at the time of each composer
        (b) Influence of each composer upon the forms of music

3. Detailed outline

Where records especially suited to the work are available, record numbers are suggested; V20045, C5066, etc., refer to Victor record 20045 and Columbia record 5066, respectively. In most instances several selections are suggested under each point in the outline in order to provide a choice. While all of those listed are valuable and each one added to the record library will furnish broader experience for the students, still it is possible for a class to do good work with access to only a few well-chosen examples. Many of the compositions listed under "Smaller forms" can be played for the class by students or local musicians.

a. Smaller forms

(1) Folk dance (Review)
See under "A—Folk and National Music" for examples

(2) Idealized dance forms (See also under "A—Folk and National Music—Compositions Based on Folk Music." The nationality, meter, and general characteristics of each dance form should be studied.)

(a) Waltz

Waltz Op. 39, No. 15—Brahms—V22172
Waltz in C Sharp Minor—Chopin—V1101
Blue Danube Waltz—Strauss—V6584
Valse Triste—Sibelius—V6579
Waltz of the Flowers (Nutcracker Suite)—Tschaikowsky—V6617
Invitation to the Waltz—Weber—V1201

(b) Minuet

Minuet "Don Juan"—Mozart—V1199
Minuet—Paderewski—V20169
Minuet—Boccherini—V20636
Minuet—Mozart; Minuet—Gluck—V20440
Minuet—Beethoven—V20164

(c) Gavotte

Amaryllis—V20169
Gavotte (Mignon)—Thomas—V20443
Gavotte in F Major—Beethoven—V6592
Gavotte—Mozart; Gavotte—Gretry—V20440

(d) Polonaise

Polonaise—Noskowski—V19670
Polonaise in B flat Major—Chopin—V6921
Polonaise (Mignon)—V6713

(e) Mazurka

La Czarine Mazurka—Ganne—V20430
Mazurka in A Minor—Chopin—V6879
Polish Dance—Scharwenka—V20203

(f) Bolero

Bolero—Ravel—V7251-7252

(g) Sarabande

Sarabande (English Suite in A Minor)—Bach—V9477
Sarabande and Tambourine—Le Clair-Sarasate—V7182

(3) March types

(a) Military

Marche Militaire—Schubert—V6639
Marche Militaire Française—Saint-Saens—V9296
Stars and Stripes Forever—Sousa—V20132
War March of the Priests—Mendelssohn—V35873

(b) Triumphal

Grand March (Aida)—Verdi—V35780
Pomp and Circumstance—Elgar—V6648

(c) Wedding

Wedding March (Midsummer Night's Dream)—Mendelssohn—V6678; V20036
Wedding March (Lohengrin)—Wagner—V20036

(d) Funeral

Funeral March—Chopin—V35800

(e) Patriotic

Marche Slav—Tschaikowsky—V6513

(f) Characteristic

Funeral March of a Marionette—Gounod—V6639

- (4) Contrapuntal forms
  - (a) Canon
    - Canon-Gavotte—Martini—C-A3164
  - (b) Fugue
    - Fugue (Two voices)—Klauwell—V19956
    - Fugue (Three and four voices)—Bach—V19956
    - Fugue in C Minor—Bach—V9284
    - Toccata and Fugue in D Minor—Bach—V6751
- (5) Irregular forms
  - (a) Nocturne
    - Nocturne in E Flat—Chopin—V6589
  - (b) Prelude
    - Prelude in D Flat (Rainbow)—Chopin—V6847
    - Prelude in C Sharp Minor—Rachmaninoff—V1326
    - Prelude in C Minor—Bach—V9124
  - (e) Etude
    - Etude in A Flat Major—Chopin—V1101
    - Etude in G Flat Major—Chopin—V6972
  - (d) Ballade
    - Ballade in G Minor—Chopin—V6612
  - (e) Scherzo
    - Scherzo Op. 31—Chopin—V6920
  - (f) Impromptu
    - Impromptu in A Flat—Schubert—V6621
  - (g) Serenade
    - Spanish Serenade—Bizet—V20521
    - Serenade—Moszkowski—V6802
  - (h) Fantasie
    - Fantaisie Impromptu—Chopin—V6546
  - (i) Rhapsody
    - Hungarian Rhapsody No. 2—Liszt—V6652
    - Rhapsody in Blue—Gershwin—V35822
  - (j) Berceuse
    - Berceuse (Jocelyn)—Godard—V20130
  - (k) Barcarolle
    - Barcarolle (Tales of Hoffman)—Offenbach—V20011
  - (l) Intermezzo
    - Intermezzo (Cavalleria Rusticana)—Mascagni—V20011
  - (m) Romance
    - Romance in F—Beethoven—V6606

b. Larger forms

- (1) Classic suite
  - (a) Contrasting dances; their relation within the suite
  - (b) Examples
    - Suite in B Minor No. II—Bach—V6914-6915
    - Ballet Suite—Gluck—V9278
- (2) Overture
  - (a) Classical overture (Sonata form)
    - Overture—Suite in B Minor—Bach—V6914
    - Egmont Overture—Beethoven—V35790
  - (b) Dramatic overture (Prelude)
    - Overture (Magic Flute)—Mozart—V1486
    - Overture (Hansel and Gretel)—Humperdinck—V9075
    - Prelude (Lohengrin)—Wagner—V6791
    - Overture (Mignon)—Thomas—V6650
    - Overture (The Bartered Bride)—Smetana—V80701
    - Oerture (Oberon)—Weber—V9122
    - Overture (Rienzi)—Wagner—V6624-6625
  - (c) Concert overture
    - Overture 1812—Tschaikowsky—V9025-9026
    - William Tell Overture—Rossini—V20606-20607
    - Midsummer Night's Dream—Overture—Mendelssohn—V6675-6676
    - Fingal's Cave Overture—Mendelssohn—V9013

Poet and Peasant Overture—von Suppe—V35797
Egmont Overture—Beethoven—V35790
Carnaval Romain Overture—Berlioz—V9207

(3) Works in sonata form
- (a) Contrasting movements or large divisions
  First movement—"Sonata Allegro" form
  Second movement—Song form, theme and variations, or "Sonata Allegro" form
  Third movement—Minuet or scherzo
  Fourth movement—Rondo, theme and variations, or "Sonata Allegro" form
- (b) "Sonata Allegro" form
  Contrasting themes
  Exposition
  Development
  Recapitulation
- (c) Sonata—a work comprised of several movements, as given above under (a), and written for a solo instrument
  Sonatina in C—Clementi—V20160
  Allegro Molto (Sonata in A Major)—Mozart
  Sonata Appassionata, Op. 57—Beethoven—V6697-6698 (difficult)
- (d) Symphony—a work comprised of several movements as given above under (a), and written for a full orchestra. (Pocket scores of the majority of these symphonies are of great assistance in this study. The Philharmonia Edition Pocket Scores may be obtained from the Associated Music Publishers. The Musical Pilgrim Series of pocket guides, obtainable from Carl Fischer, Inc., is also valuable. The Analytic Symphony Series published by Oliver Ditson furnishes well-edited piano scores to all of the best known symphonies.)
  Surprise Symphony—Haydn—V7058-7060
  Military Symphony—Haydn
  Symphony in G Minor—Mozart—V9116-9118
  Symphony in C Minor (Fifth Symphony)—Beethoven—V9029-9032
  Unfinished Symphony—Schubert—V6663-6665
  New World Symphony—Dvorak—V6565-6569
- (e) Concerto—a work comprised of several movements as given above under (a), and written for a solo instrument with orchestral accompaniment
  Concerto in A Minor—Grieg—V9151-9154
  Concerto in E Minor—Mendelssohn—V8080-8083
- (f) String quartet—a work comprised of several movements as given above under (a), and written for a string quartet. (Pocket scores of many of these string quartets are of great assistance in this study. The Philharmonia Edition Pocket scores may be obtained from the Associated Music Publishers. The Musical Pilgrim Series of pocket guides obtainable from Carl Fischer. Inc., is also valuable.)
  Emperor Quartet—Haydn—C67127D-67129D
  Andante Cantabile (String Quartet Op. 11) Tschaikowsky—V6634
  Quartet in D Major, Op. 76 No. 5—Haydn—C67039D-67041D

(4) Symphonic poem
- (a) A large orchestral work, not in strict sonata form, telling a definite story or expressing a clearly developed thought
- (b) Examples
  The Sorcerer's Apprentice—Dukas—V7021
  The Afternoon of a Faun—Debussy—V6696

Till Eulenspiegel—Strauss—V9271-9272
Danse Macabre—Saint-Saens—V6505
A Hero's Life—Strauss—V6908-6912
The Moldau—Smetana—V21748-21749
Omphale's Spinning Wheel—Saint-Saens—V7006
Finlandia—Sibelius—V9015
A Victory Ball—Schelling—V1127-1128
America—Bloch

(5) Orchestral suite

(a) A group of short contrasting pieces, each complete in itself, but all working together to tell a story or to express a certain idea

(b) Examples
Carnival of the Animals—Saint-Saens—V7200-7202
Nutcracker Suite—Tschaikowsky—V6615-6617
Peer Gynt Suite No. I—Grieg—V20245; V35793
L'Arlesienne Suite—Bizet—V9112-9113
The Fire Bird Suite—Stravinsky—V6773-6775
Scheherazade Suite—Rimsky-Korsakow—V6738-6742
Petrouchka Suite—Stravinsky—V6998-7000
The Fountains of Rome—Respighi—V9126-9127

(6) Ballet

(a) A combination of music, dancing, and pantomime, assisted by staging and costuming, all of which work together to tell a story

(b) Examples
Coppelia Ballet—Delibes—V6586
Sylvia Ballet—Delibes—V1166
Dance of the Hours (La Gioconda)—Ponchielli—V35833
Faust Ballet—Gounod—V9646-9647
The Rite of Spring—Stravinsky—V6871-6872

G. Seventh unit—Choral music

1. General aims

The aims of this unit are to develop understanding of:
a. The various types of choral music in use
b. The history of the development of each
c. Terms used in connection with these types
d. A few selections from each group

2. Procedure

General teaching suggestions are given above under "General Procedure." This work should be closely correlated with that under the First unit—Folk and national music, the Second unit—Vocal classification, and the Eighth unit—Larger vocal forms. The early choral music as it developed from polyphonic to homophonic form should be contrasted with early instrumental music as studied under the Sixth unit—Instrumental forms. The work should include the singing, by the class, of a number of selections, and if possible, the hearing of a few which are well sung, in order to develop understanding of the effects desired. Special suggestions for the teacher will be found in **The Listener's History of Music**, Vol. I, pp. 19-22, 39-53.

3. Detailed outline

Where records especially suited to the work are available, record numbers are suggested. V20043, V21749, etc., refer to Victor records numbers 20043, 21749, etc.

a. Early secular choral music

(1) Development; composers who contributed—Purcell, Byrd, Lassus, Gibbons, Morley, etc.

(2) Forms—round, canon, madrigal

(3) Famous singers—the English Singers

(4) Examples (Madrigals)
Now is the Month of Maying—Morley
In These Delightful Pleasant Groves—Purcell
Matona, Lovely Maiden—Lassus—V20075
Summer Is a-Coming In—Fornsete (round)—C-A3165

An excellent collection of old madrigals, showing their form and the way in which they were sung, is to be found in a set of Roycroft Living Tone records, made by the English Singers. (Wm. H. Wise and Company, 50 West 47th Street, New York, distributors.)

b. Early sacred choral music

(1) Development from Plain Song; composers who contributed—Palestrina, Lassus, Praetorius, Bach, etc.

(2) Forms—chant (Ambrosian and Gregorian), motet

(3) Examples
Hymn to St. John the Baptist—Gregorian Chant—V20897
Adoramus Te—Palestrina—V9159; V21622
Lo, How a Rose E'er Blooming—Praetorius—V21623
Break Forth, O Beauteous Heavenly Light—Bach

c. Modern choral music (See also under the Eighth unit—Larger vocal forms)

(1) Examples
The Heavens Resound—Beethoven—V22264
Holy, Holy, Holy—Dykes
Now the Day is Over—Barnby
The Lost Chord—Sullivan—V35806
Kye Song of St. Bride—Clokey
As Torrents in Summer—Elgar
Beautiful Savior—Crusaders' Hymn—Christiansen—V35813
May Day Carol—Taylor
Dusk—Gretchaninoff
O Can Ye Sew Cushions—Bantock

(2) Famous ensembles (See under the Third unit—Vocal classification—Vocal ensembles)

H. Eighth unit—Large vocal forms

1. General aims

The aim of this unit of work is not to make a detailed study of the various works mentioned, but rather to gain a comprehensive understanding of:

a. The various types of large vocal works and what to listen for in them
b. The connection between music and drama
c. Familiar terms used with each form
d. The best known selections in each group

2. Procedure

General teaching suggestions are given above under "General Procedure". The study of these outlines should be begun by the use of works sufficiently simple and interesting to be attractive to the student. Through his experience with them he should develop interest in the study of the more elaborate works. Class work should include singing of such works as are within range of the students, and listening to examples of others. Knowledge should be gained also of the gradual development of these forms, and of the composers who aided this development. In connection with the study of opera, the stories of a few important and interesting operas should be made familiar, while the stories of others should be available for reading at any time. Special suggestions for the teacher will be found in **What We Hear in Music**, pp. 275-355; **The Appreciation of Music**, Welch, pp. 141-148; **The Victrola Book of the Opera**; pamphlet **Giving Opera With the Phonograph**, National Bureau; slides illustrating various operas studied.

3. Detailed outline

Where records especially suited to the work are available, record numbers are suggested. V20043, C5066, etc., refer to Victor record 20043, and Columbia record 5066, respectively.

a. Opera

(1) Origin and development

(2) Staging—scenery, action, etc.

(3) Terms and divisions: libretto, score, aria, recitative, overture (see under the Sixth unit—Instrumental forms), chorus, intermezzo, ballet (see under the Sixth unit—Instrumental forms), motif, etc.

(4) Types—grand, bouffe, comique, light, operetta

(5) Famous opera houses—Milan (La Scala); Naples; New York (Metropolitan); Paris; London (Covent Garden); Chicago; Bayreuth; etc.

(6) Famous conductors and singers (See under the Third unit—Vocal classification, and the Fourth unit—Instruments and instrumental ensembles)

(7) Examples for study

Several of the operas listed below should be studied in some detail as to characters, stories, etc. In addition, many of the famous selections listed below from other operas should be made familiar. Where enough records are not available for this work, it is frequently possible to borrow them from private libraries in the community.

(a) Recitative and aria

(Clear understanding of the meaning of these terms should be developed.)

- Lohengrin—Wagner
  - Elsa's Dream—V6694
  - Lohengrin's Narrative—V7105
- Mignon—Thomas
  - Knowest Thou the Land—V1361
  - I'm Fair Titania—V7110
- Barber of Seville—Rossini
  - A Little Voice I Hear—V7110; V6580
  - Slander's Whisper—V6558
- Aida—Verdi
  - Celeste Aida—6595
- Carmen—Bizet
  - Habanera—V1145
  - Toreador Song—V8124
- Die Walküre—Wagner
  - Ho-yo-to-ho (Brunnhilde's War Cry)—VH904
  - Wotan's Farewell—V68863
- Faust—Gounod
  - Flower Song—V6618
  - Mephistophele's Serenade—V6558
- Martha—Flotow
  - The Last Rose of Summer—V1355
  - Like a Dream—V6570
- Bohemian Girl—Balfe
  - Heart Bow'd Down—V6732
- Rigoletto—Verdi
  - Caro Nome—V6580
  - Woman is Fickle—V1099
- Tannhauser—Wagner
  - Song to the Evening Star—V6563
- Pagliacci—Leoncavallo
  - Prologue—V6587
- Orpheus and Euridice—Gluck
  - I Have Lost My Euridice—V6803
- Samson and Delilah—Saint-Saens
  - My Heart at Thy Sweet Voice—V6531
- Marriage of Figaro—Mozart
  - What is This Feeling—V7076

- Madame Butterfly—Puccini
  - Some Day He'll Come—V6790
- Dinorah—Meyerbeer
  - Shadow Song—V1174

(b) Small ensemble and chorus
- Il Trovatore—Verdi
  - Home to Our Mountains (duet)—V8105
  - Miserere—V8097
  - Anvil Chorus—V20127
- Tannhauser—Wagner
  - Pilgrims' Chorus—V20127
- Rigoletto—Verdi
  - Quartet—V10012
- Lucia de Lammermoor—Donizetti
  - Sextette—V10012
- Faust—Gounod
  - Soldiers' Chorus—V19783
- Lohengrin—Wagner
  - Bridal Chorus—V9005

(c) Instrumental selections
(See also under the Sixth unit—Instrumental forms)
- Hansel and Gretel—Humperdinck—V22175-22176
- Die Walküre—Wagner
  - Magic Fire Music—V9006
  - Ride of the Valkyries—V9136

b. Cantata

(1) Development and form

(2) Examples of famous cantatas
- The Rose Maiden—Cowen
  - Bridal Chorus
- Hymn of Praise—Mendelssohn
  - I Waited for the Lord
- For God So Loved the World—Bach
  - My Heart Ever Faithful
- Olaf Trygvason—Grieg
  - Land Sighting
- The Golden Legend—Sullivan
- The Holy City—Gaul
  - List the Cherubic Host

c. Oratorio

(1) Origin and development—schools of composers

(2) Terms and divisions: libretto, score, aria, recitative, chorus, chorale

(3) Comparison—opera and oratorio

(4) Examples for study
(One or more of the oratorios listed below should be studied in some detail)

(a) Recitative and aria
- The Messiah—Handel
  - Come Unto Him; He Shall Feed His Flock—V4026
  - Comfort Ye
  - I Know That My Redeemer Liveth
- Elijah—Mendelssohn
  - O Rest in the Lord—V6555
  - If with all Your Hearts
- Stabat Mater—Gounod
  - Cujus Animam—V6028

(b) Small ensemble and chorus
- The Creation—Haydn
  - The Heavens are Telling
- St. Paul—Mendelssohn
  - How Lovely are the Messengers—V20620
- Elijah—Mendelssohn
  - Lift Thine Eyes
- Messiah—Handel
  - Hallelujah Chorus—V35768
- Judas Maccabaeus—Handel
  - See the Conquering Hero Comes—V20620
- The Redemption—Gounod
  - Unfold Ye Portals

    - (c) Instrumental selections
      The Messiah—Handel
      Pastoral Symphony—V20620
- d. Mass
  - (1) Development of church ritual
  - (2) Divisions of the Mass
  - (3) Examples for study
    B Minor Mass—Bach—V D1113-1114, V D1123-1127
    Mass—Pope Marcellus—Palestrina—V35941-35944

I. Ninth unit—Keyboard instruments and their music

1. Procedure

General teaching suggestions are given above under "General Procedure". This unit of work should be closely correlated with the Fifth unit—Song forms, and the Sixth unit—Instrumental forms, and the music studied should be classified as to form. Opportunity should be given as much as possible for students themselves to play suitable numbers for the class. The aim of the work should be to develop in students the power of intelligent enjoyment of the various types of piano literature—a power that is sadly lacking in the average listener. Students enjoy attempting to classify selections as to period simply by hearing them, and thus learn to unconsciously note the moods, the themes, and the types of composition. This brings to their attention the fact that the period to which a composer belongs depends entirely upon the type of music he writes, and therefore some present day composers may really be classified as romantic. If desired, the order may be reversed and the modern music studied first. Special suggestions for the teacher will be found in **What We Hear in Music**, pp. 237-244; **How Music Grew**, pp. 235-237, 307-323; **Listener's History of Music**, Vol. I, pp. 176-177, 23-33; slides—**Historical Musical Instruments.**

2. Detailed outline

Where records of the works being studied are available the record numbers are suggested. V20043, C5066, etc., refer to Victor record 20043 and Columbia record 5066, respectively. It should be possible to secure local or student performers for many of these selections.

- a. The piano and its forerunners
  - (1) Classical period
    - (a) Instruments and their influence upon music of the time: clavichord, dulcimer, harpsichord, spinet, virginal, pianoforte.
    - (b) Styles: polyphonic and homophonic
    - (c) Form: development of fugue, theme with variations, sonata
    - (d) Composers and music

Bach	—Two Part Inventions Preludes and Fugues (C Minor)—V9284
Handel	—Harmonious Blacksmith (harpsichord)—V1193
Rameau	—Tambourin (harpsichord)—V1199
Scarlatti	—Pastorale—C4023M
Mozart	—Sonatas—Rondo alla Turca (harpsichord)—C4023M
Haydn	—Sonatas

  - (2) Romantic period
    - (a) Characteristic styles—freedom of form

- (b) Composers and music
  - Beethoven —Sonatas—Moonlight Sonata—V6591-6592
    - Sonata Appassionata—V6697-6698
  - Schubert —Impromptus (B flat—V7120)
    - Moments Musicales (F minor—V7120)
  - Schumann —Scenes from Childhood
    - Carnival Suite
  - Chopin —Nocturnes (E flat major—V6731)
    - Etudes (G flat major—V1387)
    - Preludes—V6715-6718
    - Ballade G Minor—V6612
    - Polonaises
    - Impromptus (A flat—V1373)
    - Waltzes (C sharp minor—V1101)
  - Mendelssohn —Songs without Words (Hunting Song—V45508)
  - Liszt —Liebestraum—V6582
    - Dance of the Gnomes—V1184
    - Gondoliera
    - Hungarian Rhapsodies (No. 2—V6626)
  - Weber —Invitation to the Waltz—V1201
- (3) Modern period
  - (a) Characteristics
  - (b) Composers and music
    - Grieg —To Spring
      - Wedding Day at Troldhaugen—C7150M
    - MacDowell —Woodland Scenes
      - Witches Dance—V2039
    - Rachmaninoff—Preludes
    - Albeniz —Aragonaise
- (4) Ultra-modern period
  - (a) Characteristics
    - Styles
      - Impressionistic
      - Realistic
    - Tonality and rhythm
      - Scales
  - (b) Composers and music
    - Debussy —Reflections on the Water—V6633
      - Children's Corner Suite—V7147-7148
    - Scott —Lento
    - Palmgren —Berceuse
      - May Night
    - Grainger —Country Gardens—C7001M
      - Paraphrase on Tschaikowsky's Flower Waltz—C7002M
    - Dett —Juba Dance
    - Arensky —Suite for Two Pianos
    - Gershwin —Rhapsody in Blue
    - Ravel —Fountain
  - (c) Famous pianists of today
    - Bauer, Cortot, Grainger, Hess, Hoffman, Horowitz, Iturbi, Levitski, Mero, De Pachmann, Paderewski, Rachmaninoff, Samaroff

b. The organ

- (1) Origin and development
- (2) Terms—manuals, stops, pedals, couplers, etc.
- (3) Composers and music
  - Bach —Fugue a la Gigue—V4086
    - Fantasia in C Minor—V9284
    - Fugue in D Major—V21629
  - Franck —Piece Heroique—V9121
    - Pastoral—C50194D
    - Chorale No. III in A Minor—V35948-35949
  - Widor —Toccata—V4086
  - Lemare —Andantino—V35843
- (4) Famous organists of today
  - Dupre, Lemare, Yon

V. Bibliography for Music Appreciation and History

(Books especially recommended are marked *. The complete addresses of all publishers are given at the end of the music course of study. For additional lists of books for this work, see the bibliographies, p. 610, in **What We Hear in Music** and on p. 162 in **Listener's History of Music,** Vol. I.)

A. Texts

The book found most suitable to the situation should be chosen as a text. Copies of the rest of the books named here should be placed on the students' library reference shelf.

Book	Author	Publisher
*How Music Grew (detailed)	Bauer and Peyser	G. P. Putnam's Sons
*What We Hear in Music (advanced)	Faulkner	RCA Victor
*Music and Romance	Kinscella	RCA Victor
*People and Music (workbook "My Musical Measure" available)	McGehee	Allyn and Bacon
*Music and Music Makers	Morse	Harcourt Brace
*Introduction to Music Appreciation and History	Moyer	Ditson
*An Introduction to the Appreciation of Music	Rountree	Kenyon Press

B. References—Student

In addition to the books listed above, as many as possible of the following should be available for reference work by the students.

1. Instruments

Book	Author	Publisher
Illustrated Dictionary of Modern Musical Instruments	Clark	Hall and McCreary
*Musical Instruments	Kelley	Ditson
The Orchestral Instruments and What They Do	Mason	H. W. Gray
*Instruments of the Orchestra (chart and handbook)	Smith	RCA Victor

2. History and biography

Book	Author	Publisher
*Standard History of Music	Cooke	Ditson
Music	Creighton	Dutton
*My Musical Life	Damrosch	Scribners
Success in Music and How It Is Won	Finck	Scribners
A History of Music in Pictures	Kinsky	Dutton
*Schumann-Heink, the last of the Titans	Lawton	Macmillan
Three Titans	Ludwig	G. P. Putnams' Sons
My Musical Life	Rimsky-Korsakow	Knopf
America and Her Music	Stringfield	University of North Carolina

3. Appreciation

Book	Author	Publisher
*Music Stories for Girls and Boys (elementary)	Cross	Ginn
*The Lure of Music	Downes	Harper
The Fundamentals of Music	Gehrkens	Ditson
*Reading Lessons in Music Appreciation	Glenn and Rhetts	Birchard
Analytic Symphony Series (piano scores)	Goetschius	Ditson
Listening in on the Masters	Keith	Birchard
*Music Appreciation Readers Books V and VI (elementary)	Kinscella	University Publishing
From Song to Symphony	Mason	Ditson
*The Art-Music Readers (I and II)	Ripley and Schneider	Mentzer, Bush and Co.
The Commonsense of Music	Spaeth	Boni and Liveright

4. Opera study

Book	Author	Publisher
Book of Operas	Krehbiel	Garden City Publishing Company
Second Book of Operas	Krehbiel	Garden City Publishing Company
Opera Stories	Mason	Willis
The Opera Book	Ordway	Sully
Legends of the Wagner Drama	Weston	Scribners
*The Victrola Book of the Opera (new edition)		RCA Victor

5. Dictionaries and encyclopedias

Book	Author	Publisher
A Dictionary of Modern Music and Musicians	Allen et al	Dutton
*Elson's Music Dictionary	Elson	Presser
Dictionary of Music and Musicians (and American Supplement)	Grove	Macmillan
Musical Who's Who	Pierre Key	Pierre Key, Inc.
New Encyclopedia of Music and Musicians	Pratt	Macmillan

6. Miscellaneous

Book	Author	Publisher
My Musical Rating (questions on music)	Molloy and Snyder	National Digest, Inc.
Reliquary of English Song (Vol. I—1250-1700; Vol. II—1700-1800)	Potter	G. Schirmer
Rules for Young Musicians	Schumann	Ditson
American Music (series of pamphlets)		National Bureau
Quiz Yourself on Music (pamphlet)		National Bureau

C. References for the teacher

1. History

Book	Author	Publisher
The Study of the History of Music	Dickinson	Scribners
Epochs in Musical Progress	Hamilton	Ditson
*A Short Outline of Musical History	Harris	A. P. Schmidt
*The Listener's History of Music, Vol. I	Scholes	Oxford
From Palestrina to Grieg	Tapper	A. P. Schmidt
Essentials in Music History	Tapper and Goetschius	Scribners

2. Appreciation

Book	Author	Publisher
Music Appreciation for the Student	Erb	G. Schirmer
*Masters of the Symphony	Goetschius	Ditson
*Music Appreciation	Hamilton	Ditson
The Musical Pilgrim Series	Somervell	C. Fischer
The Appreciation of Music	Welch	Harper
Lecture-Laboratory Course in Appreciation	Winslow	RCA Victor
*Educational Catalog of Victor Records		RCA Victor
*Philharmonia Pocket Scores of Symphonies, String Quartets, etc.		Associated Music Publishers
*Study Helps for Developing Discriminating Listening		Music Supervisors' Conference

D. Song books

The books listed under "Assembly Music" provide suitable songs for use of the class in appreciation and history. In addition the following are suggested:

Book	Author	Publisher
*Botsford Collection of Folk Songs (Vol. I—Americas, Asia and Africa; Vol. II—Northern Europe; Vol. III—Southern Europe)	Botsford	G. Schirmer
*Folk Songs and Other Songs for Unison Singing	Radcliffe-Whitehead	Ditson
Song Treasury	Cartwright	Macmillan

E. Magazines

*The Etude (monthly)—Presser
*The Musical Courier (weekly)—113 West 57th Street, New York City
*Music and Youth (elementary; monthly)—Henry Hart Publication, Inc., 315 Fifth Avenue, New York City
*The New York Times (Sunday Edition—Music Section)

F. Radio Programs (Outlines, notebooks, etc.)

Book	Author	Publisher
*Instructor's Manual for Music Appreciation Hour	Damrosch	National Broadcasting Company
*Also "Students' Notebooks A, B, C, and D"		C. Fischer
*Standard School Broadcast	Garbett	Standard Oil Company of California
American School of the Air		
*Teachers Manual and Classroom Guide	Keith and Johnson	American School of the Air
*Listeners' Descriptive Manual	Bonime and Keith	G. Schirmer

G. Slides

Book	Author	Publisher
Pictured Lives of Great Composers		Sims Visual
Operas		Sims Visual
Historical Musical Instruments		Sims Visual
The Music of the American Indians	Densmore	Sims Visual
Symphony Studies	Rhetts	Sims Visual
Instruments of the Modern Symphony Orchestra and Band	Morgan	Sims Visual

PART FIVE—INTRODUCTORY MUSIC

I. Introduction

In spite of all attempts to make music instruction an integral part of the curriculum in the elementary schools, many of the students entering high school have little or no musical knowledge. Since a large number of students desire to take up some branch of musical study that demands understanding of the fundamental technical principles of the subject, every high school should include in its curriculum a course in Introductory Music, which may be called "General Music", "Rudiments of Music", or "Music Fundamentals", etc., if preferred.

II. Administrative Problems

A. Place in the curriculum

1. Prerequisite to music courses

If at least one semester of Introductory Music or its equivalent in previous study is made a prerequisite for membership in the band, orchestra, chorus, etc., or if Introductory Music be taken simultaneously with band, orchestra, chorus, etc., much more effective and musical work can be done in each of these organizations. A standardized achievement test in music, such as one of those suggested in the section of the course on "Tests and Measurements in Music", is frequently of great assistance as a basis for deciding which students are to be required to take such a course.

B. Classes per week and credit

This course will be much more effective and enjoyable if it is combined in some way with a class in Music Appreciation and History. It is suggested that if it is possible to work out such a program, the class in Introductory Music may alternate with the class in Music Appreciation and History, one meeting two and the other three days a week. With such an arrangement, students who already have a knowledge of fundamentals can enroll for the appreciation and history only.

If the work of the second semester is changed to "Sight-Reading and Ear-Training" as is suggested below under "Advanced Work", the semester schedules might be as outlined below; otherwise "Introductory Music" may be continued for the second semester in place of "Sight-Reading and Ear-Training".

First semester

Introductory Music—3 days per week—¼ unit of credit

Music Appreciation and History—2 days per week—¼ unit of credit

Second semester

Sight-Reading and Ear-Training—2 days per week—¼ unit of credit

Music Appreciation and History—3 days per week—¼ unit of credit

III. General Procedure

A. Organization of the course

The four units of work listed below are to be carried on simultaneously.

1. Singing

Much of the knowledge of music that this course aims to give can best be gained by some singing experience, even though the student is interested in instrumental study only. The ability to sing simple notation at sight is one of the most valuable accomplishments for a student of any branch of music. If the singing is presented naturally, as part of the lesson, and by means of music that is interesting yet not too difficult as to range or notation, it will be thoroughly enjoyed by the students. It can develop in them some appreciation of song literature and good singing, and enjoyment in singing as a natural means of expression, as well as give them the needed experience with music notation.

2. Ear-training

The entire course should include constant special attention to ear-training in correlation with the work in singing and fundamentals, until the connection between ear, eye, and voice is as close as is necessary for real sight-reading. If the second semester's work is changed to "Sight-Reading and Ear-Training", as is suggested below, in such a course time could advantageously be given to real ear-training to an extent not possible in the first semester.

3. Active listening and rhythmic response

A study of the rhythm or swing in music and recognition of its division into measures and beats is essential to an understanding of the fundamentals of music. This work will include activities for the muscles, ear, and eye.

4. Theory

This course should be outlined especially to meet the needs of students who will wish to apply the knowledge thus gained to the study of an instrument, or to preparation for chorus and glee club work, by giving them an understanding of the fundamentals of the music they will be reading.

This work will include:

a. Signs and terminology—understanding of the technical signs and terminology used in reading notes

b. Theory—understanding of the technical make-up of music—keys, notes values, etc.

c. Familiarity with keyboard—developing for each student a working knowledge of the piano keyboard. This does not mean the development of keyboard technique. It means simply the understanding of, and the familiarity with, the keyboard, that are so necessary to every music student and without which he will be decidedly hampered in his work, no matter in what branch of music it may be.

B. Equipment needed

The following equipment should be available: piano, phonograph, blackboard, and staff-liner. The teacher will also find it very helpful to have a cardboard keyboard such as is used in class piano work, tacked on the wall for illustration of many phases of the work. Several such keyboards are available; the Grieves keyboard, obtainable from Carl Fischer, Inc.. is suggested as being satisfactory. A staff painted on the blackboard will be of great assistance. Theory texts, staff-lined notebooks, and song books for beginning sight-reading should be in the hands of all pupils. Records for the listening and responding should be available. Suggestions for texts and records are given below under the outline for each unit of work.

IV. Content

This outline is suggested for the first work in a class in Introductory Music. The course is divided into definite units as listed above. Work on **all** of the units should be started **simultaneously** at the beginning of the course and all of the units should be carried through to completion together. Suggested lists of material are given with each unit.

A. First unit—Singing

1. **Objectives**
    - a. Good group singing
        - (1) Rote singing—unison
        - (2) Sight-reading—unison and in parts
        - (3) Individual singing whenever feasible
    - b. Correct use of singing voice
        - (1) Relaxation while singing
        - (2) Correct habits of vowel formation, diction, and pronunciation
        - (3) Attention to tone quality
        - (4) Assistance to non-singers
    - c. Enjoyment of singing
2. **Methods and activities**
    - a. **Rote singing**

Rote songs (familiar and new) should be sung with books in the hands of the students. The new songs can be learned by rote from the teacher's singing or by listening to a phonograph record or the piano. Some of the songs used for the first few lessons should include only quarter, half, dotted-half, and whole notes, and rests in 4/4 and 3/4 meter, for later use in beginning the study of note values.

If **Adventures in Music** is being used, a few songs in several keys in the section beginning p. 35, learned by rote, will be found suitable for this later work. The songs are elementary in character, but older students will not object to learning them when they know that an acquaintance with these songs will assist definitely in the first work in study of note values and in actual sight-reading, and if other songs suitable to their age and taste are also included in the singing lesson. In case only community songbooks are available, the following familiar songs can be learned in preparation for the later work in the beginning study of note values: "How Can I Leave Thee", "Luther's Cradle Hymn", "Good King Wenceslas", "Day Is Dying in the West", "Abide With Me", "Lovely Evening" (round).

Enjoyment of singing can be developed through careful choice of songs of varied types that will appeal to high school students and be within easy singing range. The teacher should not hesitate to transpose a song to a better key if it is not in comfortable singing range, nor should he hesitate to divide the class into two groups, one of which will sing the phrases including the high tones, and the other the phrases in low or medium range. These rules for choice of songs should also apply in case of sight-reading.

A few rounds may profitably be learned in preparation for later work in part-singing.

Individual singing should be encouraged during the first semester, and definitely developed during the second semester. All of the work in singing should be done without accompaniment, unless it is desired to use the piano part with some songs **after** they have been learned. However, continual singing with piano accompaniment will fail to develop the desired independence in singing.

b. Sight-reading

Sight-reading should be started as soon as the class does good rote singing. It must also be closely correlated with work in ear-training and theory. It is suggested that the work be by position at first, although as experience increases, it must be more definitely by attention to notes and intervals. **So-fa** syllables may be used if desired, but ordinarily it will be found that students of high school age can acquire facility in sight-reading music if they have a clear understanding of the principles of its notation, experience in reading it from the staff, and familiarity by sight and sound with the intervals used in its construction. Such knowledge is ordinarily more practical for the average student than that acquired by the use of syllables and the extra transfer of learning that is involved when they are used. If the work outlined under the units on "Ear-training" and on "Theory" is started simultaneously with the rote singing, by the time the class starts actual sight-reading, it should have a good background of the necessary fundamentals.

The first sight-reading lessons should be started with the use of several previously learned songs in the same key. They can be sung first with words, and then with a neutral syllable (**la, loo,** etc.). Staff exercises from the board, including motifs made familiar through these songs, the ascending and descending scales in the key used, and intervals of the tonic chord, etc., should be used for drill to make the key familiar. Sometimes the use of numbers for the steps of the scale will assist in making the intervals familiar. New songs including the familiar intervals can be attempted, first being sung with a neutral syllable, and then with words. Gradually new skips can be introduced, sometimes through familiar songs and sometimes in new songs. If the first songs used for sight-reading include only the simple familiar note values it will be easier for students to develop the habit of giving careful attention to both notes and time values. This first key only should be used until it is very familiar. From ten to fifteen short songs in it can easily be used. Then, by the time the class has progressed in its theoretical study to a clear understanding of the different keys, it will be ready to begin sight-reading in various keys. If **Adventures in Music** is used, the section beginning on p. 35 will provide a well-organized succession of songs for the sight-reading lessons. In order to give variety to the work, rote singing of folk, art, and patriotic songs should be continued after the sight-reading has been started.

c. **Assistance to non-singers**

Definite assistance to the students who have never learned to sing should form a regular part of the work, with the aim of developing their ability to correlate the muscles of the voice and the ear. The following activities for the student are helpful:

(1) Distinguishing between high and low tones sung, or played on the piano or on other instruments. (In some cases it will help if the student himself plays various notes on the piano, and tries to identify their relative pitches.)

(2) Placing his hands on the throat of a singer who demonstrates the muscular changes that accompany the production of successive tones of varying pitches

(3) Using physical movement to assist in acquiring control of the tones of voice—upward movements for high tones, downward movements for low tones

(4) Giving attention to the upward or downward movement of notes on a staff on the blackboard while attempting to sing the corresponding notes or while listening to others sing or play them

d. **Part-singing**

While unison singing is being done, preparation may be made for part-singing by the use of rounds. Good unison singing must precede any attempt at part-singing. Singing songs in simple two-part harmony will give the students more confidence in their ability to read. Later the addition of easy bass and tenor parts can be attempted. Students enjoy singing many of the old familiar folk and hymn tunes in this way. Songs of the type of "Stars of the Summer Night" and "Day Is Dying in the West" are especially suitable for such work.

3. **Materials**

(Books marked * are especially recommended. Complete addresses of all publishers are given at the end of the music course of study.)

a. **General singing**

For general singing of familiar and new songs, any of the books suggested in the section on "Assembly Music" will be satisfactory.

b. **Sight-reading**

(1) **Text**

As an introduction to sight-reading, to part-singing, to use of bass clef, to familiarity with key signature and modes, as well as for singing familiar songs, the following book is suggested as being well-organized:

*Adventures in Music	Giddings et al	Ginn

(2) **Supplementary material**

Exercises

Melodia	Cole and Lewis	Ditson
Sight-singing	Clippinger	Fitzsimons
School of Choir Singing	Christiansen	Augsburg
Essentials in Sight-Singing	Montani	Birchard

Songs

A One-Book Course in Elementary Music	Fullerton	Wallace
Senior Laurel Songs	Armitage	Birchard
Fifth Book of Songs	Foresman	American Book

B. Second unit—Ear-training

1. **Objectives**
   - a. Habitual attention on the part of every pupil to pitch differences in all music heard or produced by the class
   - b. Increased ability to correlate eye, ear, and voice in reading music
2. **Importance of ear-training**
   - a. Necessary in learning to sight-read
   - b. Enjoyable to the class as a whole
   - c. An essential part of each day's lesson
3. **Activities**
   - a. Aural recognition of familiar intervals
     This skill may be developed by the use of the piano, the teacher playing familiar and unfamiliar groups of intervals for recognition by the pupils; e. g.—"If this is middle C, what note is this?" (Teacher plays middle C, high C, G, etc., pupils naming each or placing it on a staff). Further experience may be given by having the teacher or certain pupils sing intervals with a neutral syllable for recognition by the class.
   - b. Singing groups of notes at verbal dictation
     "This is middle C; sing first line E, etc." (Sing using la.) Intervals of the diatonic scale or of the tonic chord are best for beginning.
   - c. Writing simple groups of notes sung or played by the teacher
   - d. "Finding" certain notes without assistance
     It is surprising how much pitch sense members of a class will develop by frequent practice in attempting to sing a certain note—perhaps middle C—without first being given the pitch. Attempts to recognize the pitch of notes produced by clocks, chimes, whistles, automobile horns, etc., will tend to make each individual more pitch conscious.
   - e. Drill with the keynote of a song
     Attention to pitch will be developed by making it continually necessary for a class to have the keynote in mind while singing. Only the keynote should be given before a song is sung, the class "finding" the first note. If the class gets off pitch while singing, they should be required to stop and tune to the keynote if possible, without the assistance of the piano.
4. **Materials**
   - a. Drills planned from songs and theoretical material being used by the class
   - b. Additional suggestion for the teacher:

Book	Author	Publisher
Melody Writing and Ear-Training	Dickey and French	Ditson

C. Third unit—Active listening and rhythmic response

1. **Objectives**
   - a. Development of feeling for the rhythm, accent, and meter; and ability to make muscular response to them in music heard

b. Development of understanding of various rhythmic types of music

c. Increasing ability to distinguish the meter of music heard

d. Enjoyment and increasing understanding of music heard

2. **Steps in development**

a. Rhythm

Feeling for the **rhythm** or **swing** of music should be developed. This is a necessary factor from the beginning if there is to be any accuracy later in the feeling for note-duration. The first work will be only for the purpose of developing power to feel the **swing** of music heard, and it will be most effective through the use of some type of muscular response. The following activities should be included. (Considerable experience must be given with each activity before continuing to the next if a good foundation is to be laid for the more complicated responses.)

(1) Swaying the arms or body, swinging the forearms, etc., in time to music of marked rhythm, until all rhythmic music calls forth an accurate muscular response.

(2) Recognition of distinction between certain rhythms that call for a swaying response, recognition of others that call for a marching response, etc., and development of this recognition into understanding of various rhythms such as waltz, march, etc.

b. Accent

Feeling for the accent in music should be developed. When the response to the rhythm of music is well grounded, the next step is to arouse conscious feeling for the regular succession of definite accents found in it. This work will be done by making muscular response to music heard (records or familiar songs), and not to music seen, as the feeling for the rhythm and the accent in music must come first through the ear, and by muscular response. The following activities are useful:

(1) Tapping or clapping on the accent to music heard

(2) Calling the heavy accent "one" as it is tapped

The ability to do this will be invaluable to students in the later study of meter.

c. Meter

Feeling for the meter must be developed. When students can feel the accent and recognize it as "one" their next step is to distinguish between triple and duple measures, and to recognize the number of beats to a measure in 3/4, 4/4, or 2/4 meter as heard, placing the first beat on the main accent. This work in meter must also be entirely in response to music heard, and not to music seen. This phase of the work is especially important as a foundation for later intelligent sight-reading in either instrumental or vocal ensembles. The following activities are suggested:

(1) Tapping or clapping the beats in music heard in 3/4, 4/4, or 2/4 meter, first finding the "one", and then the lighter beats. The tempo of music used for the first work of this kind must be slow.

(2) Some work of the type used in Dalcroze eurythmics. Two separate but simultaneous muscular responses may be made—a big movement in response to the rhythmic swing

of the music (perhaps with body or arms), and smaller movements in response to the meter (perhaps with feet or hands).

d. Appreciation

If the work in Introductory Music is not being combined with Music Appreciation and History as suggested above, at least a small amount of such study should be included with the listening lessons—perhaps starting with work similar to that described in the Music Appreciation and History course under the units on "Folk Music", "Song Forms", or "Orchestral Instruments". Familiarity with a few well-known, worth while and interesting selections should also be developed.

3. Materials

a. Songs with distinct swinging or marching rhythms, or easily distinguished meters, can be used for the work in muscular response. In most cases it will be found best to have part of the class sing, while the rest make the necessary movements.

b. **Records** of selections with distinct swinging or marching rhythms, or easily distinguished meters, are extremely valuable for this work with muscular response. Many of those suggested in the Music Appreciation and History course under the unit on "Instrumental Forms—Small Forms," are suitable. The following additional records are well adapted to the work (V20401 indicates Victor record number 20401):

V20401—March, Waltz
V20350—Fundamental Rhythms—2/4 and 3/4
V20351—Fundamental Rhythms—4/4 and 6/8
V19723—Fundamental Rhythms—2/4 and 3/4
V19724—Fundamental Rhythms—4/4 and 6/8

c. Records and songs for use in appreciation work are suggested in the Music Appreciation and History course under the outline for each unit.

D. Fourth unit—Theory

1. Objectives

a. Understanding of the technical signs and terminology used in reading notes

b. Understanding of the fundamental make-up of music—keys, note values, etc.

c. Development of a good working knowledge of the piano keyboard

2. Points to be included

a. Staff

Clear understanding of treble clef, lines, spaces, letter names of notes, sharps, flats, etc.

b. Keys

Understanding of the fundamental principles of key signatures and tonality, the means of finding the key in which a piece of music is written, and attention to the fact that a selection usually revolves around the keynote and begins or ends on the first, third, or fifth tone of the scale. Not much technical drill of this kind should be given until students are accustomed to the staff, etc., or the many mechanical details will prove confusing and tiring.

c. Staff notation of note values

This should follow parts a, b, and c, under the "Third unit—Listening and responding" (above). To begin with. attention should be given only to 3/4, 4/4, and 2/4 meters, and quarter, half and whole notes and rests. If these are made very familiar, and considerable experience is gained in the use of them, more complicated meters and note values will not be difficult. Attention should also be given to the use of the tie and the distinction between tie and slur. It is sometimes necessary to have the students tap (with finger or pencil) the beats for each note as they sing, in order to make sure that they develop the habit of giving careful attention to note values.

d. Simple terminology and signs

Terms and signs (such as "first ending", "repeat marks", "D. C.", etc.) should be made familiar as they occur in the music being used.

e. Familiarity with the keyboard

As the notes and keys are studied on the staff they should also be studied on the keyboard. The association may first be made by the use of a cardboard wall keyboard, but should include experience at a real piano keyboard. This work should be closely associated with that in singing and in ear-training. The aim is not to develop technical proficiency for the playing of the piano, but simply to give each student a good working knowledge of the keyboard.

f. Additional work

The outlining of further work on each of these points will depend upon the progress of the class in the study of the fundamentals outlined above. However, the following problems should be taken up in the order that seems best to the teacher:

- (1) Scale building (only major scales for the first work)
    - (a) Succession of steps and half steps in scale; ability to build major scales according to pattern on the staff or at the keyboard; ability to distinguish between correct and incorrect scales heard
    - (b) Understanding of tonality
    - (c) Circle of sharps and flats
- (2) Bass clef
- (3) Major and minor modes
    - (a) Aural recognition of difference
    - (b) Understanding of character and use of each
    - (c) Understanding of tonality in minor keys
    - (d) Understanding of relative minors and majors
- (4) More difficult problems in meter
    - (a) Divided beat; dotted-quarter and eighth notes
    - (b) 6/8 meter
    - (c) Up-beat, or beat before the first measure
    - (d) Triplets

3. Materials

(Materials especially recommended are indicated by *. Complete addresses of publishers are given at the end of the music course of study.)

a. Text

For the study of the fundamental theoretical problems in music, the following textbooks are suggested:

Title	Author	Publisher
*Elementary Music Theory	Smith	Ditson
Musical Theory (Book I—Elementary Theory; Book II—Elementary Harmony Teacher's Manual for Books I and II	Andersen	Fitzsimons
Essentials of Music Theory	Gardner	C. Fischer
Elementary Theory of Music (Includes also beginning harmony, appreciation, and history)	Holmberg and Giard	Harlow
School of Choir Singing	Christiansen	Augsburg

b. **Supplementary material**

For supplementary use by teacher or pupils, the following is suggested as being very valuable:

Title	Author	Publisher
*Keyboard Harmony for Juniors	Gest	Ditson

c. **Notebook**

Each student should have a staff-ruled notebook. Some available notebooks are really student workbooks and include considerable helpful material for the student, in addition to the staff-ruled pages. The following are suggested:

Book	Author	Publisher
*A Music Workbook	Clark	Hall and McCreary
Guide System Music Notebook No. C	Sullivan	Willis
Essentials of Music	Valentine	A. S. Barnes
Music Notebook No. 2	Sullivan	Willis
*Music Fundamentals	Robinson	Hall and McCreary

E. Advanced work

For the second semester's work it may be feasible to change the course in "Introductory Music" to "Sight-reading and Ear-training." The class could then include additional students who already have a knowledge of the fundamentals of music but who need further study and experience in applying these fundamentals as a preparation for choral work or for more advanced instrumental work. Many of those who are taking the course simply in order to gain an understanding of music fundamentals to help them in instrumental or vocal work will not desire to continue with the second semester's lessons.

The work of the second semester should be more advanced, including more definite ear-training through study of intervals and recognition of them by sight, by ear, and by name (major second, minor second, etc.); advanced sight-singing; some work in melodic and rhythmic dictation; original melody writing; understanding of melodic transposition; continual experience in individual singing. This advanced study should provide students with an ideal foundation for a later course in Harmony.

V. Detailed Outline of First Month's Work

The following outline is suggested for the work of the first month in a class meeting two days a week. Each day's lesson should include some work of the types listed below under points A, B, C, and D. Possibly work on E (Sight-reading) will also be started the first month; eventually it will replace A (Rote singing).

A. Rote singing

1. **Materials**
    - a. Familiar and new folk, art, patriotic songs
    - b. Several songs including only quarter, half, dotted-half and whole notes and rests
2. **Methods**
    - a. See above under "Content", in the First unit—"Singing—Methods and activities" (paragraphs a. and c.)

B. Ear-training

1. **Activities**
    - a. Those suggested above under "Content" in the Second unit—"Ear-training" (knowledge of letter names of notes on staff a prerequisite)

C. Active listening and rhythmic response

1. **Objectives**
    - a. To make students increasingly attentive to rhythm, accent, and meter in the songs they sing and music they hear
    - b. To develop in students the ability to make muscular response to music
    - c. To lay a foundation for an understanding of note values
2. **Materials**
    - a. Records suggested above under "Content" in the Third unit—"Active listening and rhythmic response"
    - b. Records of any selections strongly rhythmic and smoothly played—marches, waltzes, etc.
    - c. Familiar songs with good swing
3. **Methods**
    - a. See above under "Content" in the Third unit—"Active listening and rhythmic response—Steps in development"

D. Theory

1. **Materials**
    - a. One of the theory texts suggested above under "Content", in the Fourth unit—"Theory"
    - b. Staff-ruled notebooks
2. **Work**
    - a. Points suggested above under "Content", in the Fourth unit—"Theory—Points to be included" (paragraphs a. and d.) for the first lessons
    - b. Familiarity with relative positions of notes on keyboard
    - c. Staff notation of note values
        - (1) Postpone until "Meter" is completed under rhythm study (Third unit under "Content")
        - (2) Begin with the use of previously learned songs with simple note values

E. Sight-reading

1. **Work**
    - a. Considerable progress in rote singing and theory are prerequisite to sight-reading, therefore this work is seldom possible during the first month
    - b. Methods suggested above under "Content" in the First unit—"Singing—Methods and activities" (paragraph b).

PART SIX—HARMONY

I. Definition and Aims of the Course

A. Definition

Harmony may be defined as the science of building chords, and the art of selecting and combining them.

B. Aims

This course aims to be of practical value to students by:

1. Developing a thorough technical understanding of the music with which they are dealing
2. Enriching their musical experience
3. Providing a possible field for exploration and creative activity by giving opportunity for original composition

II. Administrative Problems

A. Classes per week and credit

One-half unit of credit per semester is a fair allowance for a course of this kind given daily throughout the year.

It is possible also to give this subject only two or three days per week, allowing one-quarter unit of credit per semester. In such case, two full years of work can easily be outlined.

B. Correlation

Where the class meets only two or three days a week, it may be feasible to alternate it with "Music Appreciation and History" in the same way as is suggested for "Introductory Music."

III. Procedure

Students who have an understanding of the rudiments of music and are taking part in any musical ensemble, or are making a further and more specialized study of any branch of music, should have a course in harmony open to them. In some cases, it may seem desirable to call the course by another name, such as "Melodies and Chords." In every case, the course should be one of learning through experience, and not entirely through accumulating a set of rules on the correct and incorrect ways of handling the already familiar tones. It should be kept in mind that students will learn chords through hearing and absorbing them, as they learned the English language; they will learn further through using them, and finally through analyzing them. Too many rules at first will destroy the spontaneity and joy that should be developed in the work. The consecutive steps in the work should be: absorption, application, analysis.

IV. Content

A. Ear-training with chords

The first work should include some experience in finding chords at the keyboard. Expression of feelings and ideas by means of chords picked out at the keyboard will do much from the beginning to give the students a familiarity with the nature and possibilities of each chord. Some chords will be found to sound unfinished; some will be sad in character, others will be happy, calm, restful, etc.

B. Individual tones

Along with the work suggested above should come the study of the character of individual tones. Students will soon learn that tones have character—they may rest or want to move, etc.,—and that single tones may be used in many different ways, their character depending upon their relation to other tones. Understanding this, the students will gradually learn to use chords, find their resolutions, understand cadences, etc., without spelling them. They may not be able to write them at first any more than small children can write their words, but such tonal conversation prepares them for scientific study of scales and finally for the study of harmony. They will learn rules when they feel the need for them and want to write according to scientific principles, but if the ear and feeling for the chords are trained first, the result will be a real feeling for music, not just a mathematical understanding of it. The steps in this work will be the study of:

1. The nature of each tone in relation to the other tones in the scale; names of the tones of the scale—tonic, supertonic, etc.; understanding of the tendency of certain tones to move upward, others to move downward, and others to remain fixed
2. The nature of each tone in relation to others in:
   a. Intervals (names of the various intervals; some work in aural recognition of them)
   b. Triads (familiarity through ear and keyboard only)
   c. Seventh chords, etc, (familiarity through ear and keyboard only)

C. Original work

Immediate application of the study of tones and chords in the composition and harmonization of original melodies should follow. This work will be entirely by ear at first, but should be continued along with the study of rules for the uses of chords so that conscious application of the material studied is continually made. If good work of this kind is done, a program of the best original compositions will encourage this creative activity, will be of great interest to the community, and will frequently bring out talent that would otherwise be unknown.

D. Definite chord study

This will be comprised of study of the various chords (most of which will already be familiar aurally), including their names, their formation, and their uses according to rule and otherwise. The class should have some experience in noting the uses made by various composers, in songs, and in instrumental selections of the chords studied. This experience will be of great assistance to the students in their original work. High school classes are usually especially interested in the chord successions in modern popular music and can derive much valuable information from the study of a few such numbers.

E. Technical background

In connection with all of this, review and further study of the technical details of the construction of the music will fit in naturally. This should include study of:

1. Key signatures
2. Scales—major, minor, chromatic, enharmonic, etc.
3. Pulse, meter, and rhythm
4. Form

F. Singing

As soon as definite study of chords is begun, singing them as well as playing them will give a still better understanding of their character, and of the character of each tone in them, and the horizontal movement of a tone in a succession of chords. This can be done with either so-fa syllables or neutral syllables.

G. Writing

When writing is begun, students should learn to "think" on paper, and not to have to use the piano first. For this reason, a great deal of previous experience in hearing chords and tones is absolutely essential if sufficient familiarity with any chord or tone is to be developed to make it possible to hear it with the "inner ear." Experience in harmonizing a given soprano or an original melody, sometimes at the piano and sometimes merely on paper, is valuable for students.

V. Bibliography

A very definite outline is not feasible for such a course as this—the work must be adjusted to individual needs and situations. Most of the texts published are too technical and analytical for use with high school classes except as helps to an elastic course. Teachers will find many helpful outlines and suggestions, especially for the beginning lessons, in the following:

A. Texts

Title	Author	Publisher
A Theory of Self-Expression in Music	Bergquist	Paul A. Schmitt Co.
Keyboard Harmony for Juniors	Gest	Ditson

When the class has acquired sufficient experience to make the use of a text desirable for continuing the work, the following are suggested as being especially fine for high school students:

Title	Author	Publisher
An Approach to Harmony	McConathy et al	Silver, Burdett
Harmony for Eye, Ear, and Keyboard	Heacox	Ditson

In the preparatory theoretical study such as is listed above under "E" the teacher may wish to use lessons similar to those outlined in:

Title	Author	Publisher
Short Lessons in Musical Theory (Books I and II)	Andersen	Fitzsimons

B. Reference

The following book is suggested as a help to the teacher in planning lessons and projects:

Title	Author	Publisher
Melody Writing and Ear-Training	Dickey and French	Ditson

PART SEVEN—ASSEMBLY MUSIC

I. Definition and Aims

By assembly music is meant a music period in which the entire student body of a school takes part. This is one of the most valuable and practical school activities, and is too frequently neglected in our high schools. A brief statement of the main aims of the assembly music period is as follows:

A. To furnish a socializing influence and to utilize music as a wholesome emotional outlet by arousing that unity of spirit which may come to groups of people singing together

B. To allow opportunity for some musical enjoyment and growth on the part of each student in the school by furnishing each one the opportunity for some active participation; thus to increase the interest in, and understanding of, music sung or heard in the home and community

II. Administrative Problems

If the enrollment is so large as to make impractical the holding of assemblies for the entire school, the student body should be divided into groups, by classes, or in any other way found feasible. Each group, and therefore each student in the school, should have a music assembly of from twenty to thirty minutes at least once a week, if anything worth while is to be accomplished. The time of these assemblies should be reserved for music. Assemblies for other purposes should always, if possible, include at least one musical number, but this should not be made a substitute for the regular music assembly. This work will not be successful unless it is efficiently organized, carefully planned, and regularly conducted.

In a large assembly, because of the size of the group and the many duties demanding the attention and energies of the music teacher during the period, the full cooperation of the principal and other faculty members is necessary. The help of a good accompanist is an essential in this work. Sometimes the school orchestra can also be used to advantage on the accompaniments.

III. Procedure and Content

A. Singing

1. Organization of the work

A large portion of the music assembly period should be spent in general singing. This part of the work should include old and new folk, patriotic, community, and art songs of all types. Each day's work should be comprised of some songs of each of these types, in order to arouse the interest of, and give enjoyment to. the various students taking part.

The first singing will probably be in unison, although part-singing should always be encouraged. However, from the beginning, some preparation can be made for part-singing by the use of rounds and unison songs in the bass clef. Later on, if it seems feasible, part-singing should be made as much as possible a regular portion of the work. This will necessitate definite seating arrangements and classification of voices. (See "Testing of Voices" in the section on "Glee Clubs and Choruses".) The range in all parts in songs used for this purpose should be small and the harmony simple, with easy intervals. (Examples: "There's Music in the Air", "Stars of the Summer Night", "Day Is Dying in the West".) The members of the glee clubs and chorus can be used to advantage as leaders in this work, and also in the learning of the more difficult unison songs, and it may be well to have them seated in groups in parts of the room where they can be of the most assistance.

2. Choice of songs

The range of unison songs should be carefully watched. Many of the songs popular for this type of singing range too high for the average singer when only the soprano is used. Some will be much more enjoyable and less harmful to voices if transposed to a more suitable key. Attention should be given also to the tone quality of the singing—shouting and loud singing too frequently characterize assembly music. This period should prove a laboratory for developing in students a taste for artistic singing and beautiful, blending tone.

The use of song slides is frequently of great assistance to the success of the assembly singing. Very fine sets of song slides may be secured from the Sims Visual Music Company, the Sims Song Slide Corporation, and the Keystone View Company.

B. Listening

1. Organization of the work

A part of the music assembly period should be spent in the development in the students of the power of intelligent listening. This power is of increasing significance in modern life since the phonograph and radio have assumed their present importance.

Any listening lessons in assembly must of necessity be brief, varied, and easy to comprehend, if they are to hold the interest of the students. The outline given and records suggested in the units on "Folk and National Music and Ballads" and "Instruments and Instrumental Ensembles" in the course in "Music Appreciation and History", are suitable for such work. In a school where a class in music appreciation is conducted, the records used in that class should be sufficient to provide material for use in assembly. Illustrations should be furnished by performances of the students themselves whenever possible. The slides suggested in the Bibliography under "Music Appreciation and History" may be found helpful in this work.

2. Activities

Each lesson should include: Some "quiet" listening to an interesting selection, with little or no explanation; one new point in the outline of study being followed; and a short review of previous work. Frequent use of easy tests on the recognition of instruments, themes, rhythms, etc., as they are studied, is of interest to students. Mention of current radio programs in connection with the work done in assembly will serve to make it of more practical value and of greater enjoyment.

C. Programs

The school assembly is an ideal place for frequent solo and ensemble performances of all kinds by music students. These programs give the students who are performing opportunity for development and give the student body as a whole experience and enjoyment in listening. They also serve to arouse interest in the work of the music department. Such performances need not be confined to music assemblies, but are suitable for any assembly program.

IV. Bibliography

The following books are suggested as being especially fine for use in assembly singing. They should be carefully examined before one is chosen, as some will be found more suitable than others for use in certain situations. Books marked * are especially recommended. The complete addresses of all publishers are given at the end of the music course of study.

Title	Author	Publisher
*Twice 55 Plus Community Songs	Dykema et al	Birchard
Favorite Songs of the People		Presser
Two Hundred Songs	Kwalwasser	Smith, Hammond
*The School Song Book	McConathy	Birchard
*The Blue Book of Favorite Songs	Beattie et al	Hall and McCreary
Assembly Songs and Choruses	Condon et al	Ginn
Songs for the School Year	Dare	A. S. Barnes
*Assembly Songs for Every Occasion	Gartlan	Hinds, Hayden and Eldredge
High School Song Book	Parsons	Silver Burdett
Songs We Like to Sing	Alexander	Silver Burdett
*Home and Community Song Book	Surette and Davison	E. C. Schirmer

PART EIGHT—PIANO CLASSES

I. Introduction

A. Value of piano class work

Modern educational authorities recognize the fact that class instruction is an efficient, economical, and interesting way of teaching piano as well as other instruments. Piano class work is one of the most feasible phases of instrumental class work for high schools and adapts itself admirably to the needs and development of the adolescent student. Many students reach high school without having had the advantage of piano instruction though they greatly desire it. No course of greater practical or cultural value can be given for them. The piano is the fundamental musical instrument and some knowledge of it is almost essential in the intelligent study of other instruments or voice, and in the development of understanding and appreciation of good music and its performance.

B. Advantages of piano study in classes

In many cases, class instruction in piano, especially for beginners, has proven to be even more successful than individual lessons. The enthusiasm and rivalry present in a class, as a center of socialized activity, are effective as means of getting results, and students frequently make more progress in class work than in individual lessons over equal periods of time. Class instruction provides a way whereby students can study piano with competent teachers at a low individual cost. Furthermore, in the class students become accustomed to playing for one another and lose much of their self-consciousness. The class also gives the student the opportunity of developing the power of listening intelligently and critically to his own performance and that of others. It has been found that a very large percentage of the students who start work in these classes, continue piano study with private teachers, or take up the study of some other branch of music.

C. Aims of the piano class

The piano class does not aim to produce finished players. It aims to "teach the fundamentals and give a sufficient degree of mastery for self-expression in the easier grades of music, maintaining artistic standards throughout. This includes the playing of simple accompaniments, a certain ability in sight-reading, and a well-trained ear. The tremendous help these accomplishments can give to school vocal music is readily apparent. In addition, the piano class serves to discover talent, one of the most important functions of all education."

II. Administrative Problems

A. Size of classes

Experience has generally shown that the best results are obtained in classes of twelve or fewer, though an expert teacher can sometimes successfully handle a larger class. Not more than ten students should be included unless there is more than one piano in the classroom.

B. Time of meeting

To be entirely successful, class piano instruction should be given under the supervision of the principal of the high school and be made a part of the school work. In some places it has been possible to hold the classes during school hours but sometimes it is necessary for them to meet after school. The spirit of the work is more easily maintained when the classes are held during the school day, though high school students are usually so anxious to have the instruction that the hour of holding the class is not as important in their case as it is in the case of small children.

C. Classes per week and credit

There should be at least one full hour of instruction per week. It will usually be found inadvisable to give credit for this beginning work. According to the state regulations in regard to Applied Music (see section on Applied Music below) students are not allowed credit for piano lessons until their third year of study. Most high school students who will take class instruction in piano will do so because they want the lessons and not because they need the credit.

D. Equipment and materials

The classroom must be equipped with at least one piano for each ten students, and with large desks (or card or sewing tables) and chairs for all students. Students should own and pay for their own class piano materials. Frequently, women's clubs, parent-teachers' associations and similar organizations will be sufficiently interested in the starting of such classes to assist in equipping the classroom or to furnish pianos for practice to students who do not have access to a piano at home.

E. Preparation of teachers

Teachers of piano classes should have the following qualifications:

1. **Musical training**
   If the training given is to be thorough and of a high standard musically, the teacher must be a well trained pianist with a good musical background and with experience in the teaching of the instrument, and an understanding of the problems involved for the beginning student.

2. **Training for class work**
   Many piano teachers who are highly successful in individual teaching fail in conducting classes because they do not understand class psychology and attempt to make of the class a series of short individual lessons instead of a group lesson. Special training courses for teachers of class piano are given by all of the leading schools of music, and a teacher should have taken such a course before being considered qualified for the work.

III. Bibliography

A. Courses

The following class piano courses are suggested as being especially suitable for use in this work:

Title	Author	Publisher
The Oxford Piano Course (Older Beginners' Book)	Schelling et al	Carl Fischer, Inc., (306 S. Wabash, Chicago, Illinois)
The Melody Way Piano Course	Miessner	Miessner Institute of Music (1219 Kimball Bldg., Chicago, Illinois)

B. Additional information

More detailed information on organizing piano classes may be obtained by writing to the National Bureau for the Advancement of Music, 45 West 45th Street, New York City

PART NINE—VOICE CLASSES

I. Aims

A. To develop in students the ability to enjoy singing and to make the best possible use of their natural singing and speaking voices through correct tone production, breathing habits, diction, stage deportment, etc.

B. To develop appreciation of the best song literature, particularly folk and art songs, and of artistic rendition of songs

II. Administrative Problems

A. Size of classes

Voice classes should not be large if good work is to be accomplished. Ten (or, at most, twelve) students is the largest number that can satisfactorily be accommodated in one class.

B. Time of meeting

If it is at all possible, these classes should meet during the school day. The first period in the morning is the most desirable and the period following lunch is the least desirable for voice classes.

C. Classes per week and credit

No less than two full period classes per week are necessary for this work. The most satisfactory arrangement will be to have the voice class meet daily. Since a voice class will demand continual and careful outside preparation by the student, and additional recital performance, a fair allowance of credit for a class meeting two or three times a week is one-half unit of credit per year, and for a class meeting daily, one full unit of credit per year.

D. Prerequisites

Students enrolling in the voice class should have previously taken Introductory Music (or should be taking it simultaneously) or should have the musical background to enable them to read easily music of the difficulty of that in the songs studied. The work of the teacher in this class is to instruct her students in singing and not in the fundamentals of reading music.

E. Preparation of teachers

It is very strongly recommended that voice classes be conducted **only** by teachers holding state Applied Music Certificates in Voice. This work can be of inestimable value if properly conducted by a well-qualified teacher. On the other hand it can do unlimited harm if conducted by a teacher whose experience and training have not given her a thorough understanding of the teaching of fundamental voice work and of class psychology as well. It will be wise not to include the class in the curriculum unless there is available a teacher whose qualifications for the work are recognized by state certification.

III. Procedure

A. Organization of classes

1. Beginning work

The teacher must first of all make himself very familiar with each student in the class, as to the range and quality of his voice, any defects in tone production, speech, or ear, etc. This knowledge can be obtained by the singing of simple vowel exercises, perhaps class-wise in an easy key until they are familiar, then individually. This is essential to the seating of the class, the group singing of vowel exercises, and the choosing of songs for each pupil.

2. Seating plans

It will be found of great assistance in conducting the work if pupils are seated according to range and quality of voices—low voices on one side, medium in the center, and high on the other side, as in a chorus. Then, in the singing of group exercises, it will be simpler for the teacher to indicate when each student should stop and start according to his vocal range.

B. Practicing required

Very little real voice practice or vocalizing should be required outside of the class period because the dangers of incorrect practice and of forcing the voices are great. A little work on the exercises used in class will suffice. However, pupils will need to spend considerable time memorizing songs to be used, rehearsing details of correct stage deportment, and looking up information concerning the song itself or its type, composer, and general background, necessary for its correct interpretation. As students increase in experience in correct singing they can safely do more and more home practicing.

C. Public performances

Public recitals are interesting and valuable if given only when pupils are ready for them. They should be a natural outgrowth of class accomplishments. Public recitals are very harmful to the work of the class if students have to be forced ahead faster than they can do good work in preparing for them. Members of the voice class should not be called upon to sing for other public performances except with the full permission of the teacher. A great deal of time, and careful, slow building are required in this work and any improvements made can very rapidly be destroyed if the class is regarded as a regular feeder for the programs in the school and community.

D. Miscellaneous teaching suggestions

1. Notebooks

Exercises to be used should be placed on the board before class time.

Students should keep complete notebooks of the work of this course, taking down directions given for the work, and copying the exercises from the board.

2. Individual singing

When individual singing of the exercises is being done, the teacher will find it best to start the work with the pupils who are most independent in their singing and best able to follow the teacher's example. In this way, the weaker students become accustomed to the work and have more opportunity to hear the exercises sung before they attempt them. Care should be taken to keep the atmosphere of the class one of freedom and enjoyment. One of the great advantages of class teaching is that pupils become accustomed to singing for others, and gradually overcome any self-consciousness they may have. However, if there is an atmosphere of tension or if there is an expectation of severe criticism, good individual singing will never be possible.

3. **Boys with changing voices**

   Boys whose voices have not settled should seldom be admitted to voice classes. Only where the teacher has had experience working with such voices and the class is small enough to insure constant individual attention is it possible to guarantee safety for these voices.

4. **Class criticisms**

   Pupils may be allowed to make criticisms on the stage deportment of the members of the class as they perform. However, they should never make criticisms in class on the singing of their classmates—that should be left entirely to the teacher. If they have questions regarding the singing of other members of the class, they should be encouraged to go to the teacher privately and ask them, but not to run the risk of embarrassing the students in question by criticizing them openly.

IV. Content

The lesson must follow a particular plan or routine if the time is to be spent to advantage in combining individual and class work. The following routine is suggested as being practical:

A. Warming-up exercises

Exercises (usually of the three-tone type) to be used in this work should be on the board before the arrival of the class. This work consists of the simplest of exercises using vowel sounds. The teacher sings the exercise first in a key suitable for the first pupil. After a slight pause the pupil sings the same exercise. The teacher then sings the exercise in a suitable key for the second pupil; after a pause, this pupil sings. This continues until each member of the class has sung individually and the teacher has had an opportunity to observe the faults in each voice and to give some individual help. Then the same exercise is sung by the class as a group in a key suitable for all. All of this phase of the work presupposes a definite knowledge by the teacher of each voice in the class. This part of the lesson will require about 6-7 minutes in time.

B. Class exercises

The work is continued with other exercises, from the board, used on various vowels. These should be started in a key suitable for all. As they continue upward, when the notes become too high (or too low) for certain voices, the teacher indicates that these pupils are to stop singing until the exercise is again within their range. This work should be done very slowly so that each member of the class has plenty of time to adjust himself mentally and physically to the changes made and thus intelligently to use his voice. This will perhaps begin with a five-tone exercise, return to the three-tone exercise used in warming up, and continue as follows: six-tone exercise; three-tone exercise; seven-tone exercise;

three-tone exercise; octave exercise, etc., returning after each to the original easy familiar exercise to insure relaxation. This part of the lesson will require about 10-12 minutes, and will be class work entirely.

C. Song singing

1. The choice of songs

a. Folk songs

The simplest folk songs are suggested for first work in the voice class. Ordinarily, assembly and community song books will include the material needed for the beginning lessons. The melodic and rhythmic problems found in folk songs are usually of the type desired for the first songs.

It is well to assign different songs to each individual. This allows for attention to the range necessary for each voice and makes the classwork more interesting. The choice of songs should be correlated with the language study in the high school, and pupils who are studying certain foreign languages should be assigned songs from the country whose language they are studying. The songs should be sung in the vernacular whenever possible.

b. Art songs

Later, after some singing experience has been gained, a few of the easier modern secular and sacred art songs, and classical art songs should be used. It will be found best to assign these songs to the pubils about a month before they are needed as it frequently takes several weeks to secure them, especially in the smaller towns. Whenever possible, the languages studied by the pupils should be correlated with the study of art songs, as was suggested above for the folk songs. Songs chosen should be those easily understood and interpreted by singers of high school age. It is also well in choosing art songs to assign different songs to each individual.

A list of suitable songs for this work is suggested in the Bibliography below.

2. Suggestions on singing

Songs should always be memorized and ready for performance when sung by pupils in the class. Careful attention should be given to stage deportment at all times. The teacher only should make any necessary criticisms of the singing of the students.

D. Additional work

The same type of lesson program should be used throughout the year, with the addition of new problems in intervals, triads, chords, etc., as the work develops.

V. Bibliography

A. Materials for the pupil

1. Folk songs

Most of the song books listed under "Assembly Music" and in the Bibliography for "Music Appreciation and History", are suitable for this work.

2. Art songs

The following songs (and others of like character and difficulty) are suggested as being suitable for the work:

Modern art songs

- Slumber Boat—Gaynor
- To You—Speaks
- Wake Up—Phillips
- Leave it with Him (Sacred)—Ellis
- When Song Is Sweet—Sans-Souci
- Life's Lullaby—Lane
- Lassie O' Mine—Walt

Classical art songs

- Thou'rt Like Unto a Flower—Rubinstein
- The Linden Tree—Schubert
- Rosamunde—Schubert
- Hedge Roses—Schubert
- To Music—Schubert

Ordinarily it will be found less expensive to have the pupils buy the songs used separately rather than in collections, since most collections will contain some songs not suitable for use by certain singers. However, if a collection is desired, the following is suggested as being ideal for the work:

Title	Author	Publisher
Art Songs for School and Studio	Glenn and Spouse	Ditson

3. Notebooks

Each pupil needs:

a. An ordinary notebook in which careful notes on tone production, interpretation, etc., are kept
b. A staff-ruled notebook in which to copy all exercises given

B. Materials for the teacher

1. Vocal methods

Each teacher will probably have a preferred vocal method to use in planning the lessons and in giving exercises. The following are recommended as being excellent in the suggestions, procedures, and exercises they give for class voice work. They are for use by the teacher and **not** by the pupils.

(Complete addresses of all publishers are given at the end of the music course of study.)

Title	Author	Publisher
Beginner's Voice Book	Proschowski	Presser
Collective Voice Training	Clippinger	Fearis
The Voco Study Plan	Granville	Gamble
Thirty-Six Lessons in Singing	Witherspoon	Miessner
Universal Song (Vols. I-III)	Haywood	G. Schirmer

2. Supplementary materials

Suggestions on organizing voice classes may be secured from the National Bureau for the Advancement of Music, 45 W. 45th Street, New York City. A leaflet—**Books on Vocal Music**—issued by the Bureau, is particularly valuable.

PART TEN—APPLIED MUSIC

I. Introduction

A. Definition

The term Applied Music as used in this course refers to private lessons in music, taken outside of the regular high school classroom, for high school credit, under the instruction of private music teachers certificated by the State Department of Public Instruction.

B. History

In December, 1929, the State Board of Education agreed to grant as many as two high school credits toward high school graduation, for private music lessons, taken outside of the high school under competent instruction.

This plan for granting credit for private music lessons taken outside of the high school under competent instruction was also approved by the Executive Council of the Greater University of Montana, and the credits so earned will be accepted by the institutions represented on this council.

The Applied Music courses and the arrangements for the certification of teachers were outlined and issued through the cooperative efforts of the Montana State Music Teachers' Association, the State Board of Educational Examiners, and the State Department of Public Instruction.

C. Place in school curriculum

It seems only reasonable that students taking music lessons under competent instruction. following definite state regulations in regard to standard and amount of work done, should be allowed school credit for their study. The granting of such credit is in accordance with sound modern educational principles, and provides the average pupil opportunity for more advanced and extensive work in music, if he desires it, and allows the talented pupil the opportunity for real development in musicianship and in performing ability.

The granting of credit for Applied Music is optional with the superintendent or principal in charge of the high school. If school authorities in any locality are convinced that the results do not justify it, they are under no obligation to include the course in the curriculum even though certificated teachers are available. However, it is believed that adherence to the regulations set forth and to the courses of study as outlined will assure work that will be increasingly satisfactory and high in standard.

II. Administrative Problems

A. Courses

Completely outlined Applied Music Courses are available in piano, voice, and violin. Outlines for courses in cello, pipe-organ, harp, flute, clarinet, cornet, and trombone are in the process of construction.

B. Credits obtainable

Students in Montana high schools who are receiving private instruction which follows the state courses in the branches of Applied Music named above, from teachers who are certificated by the State Department of Public Instruction, may earn in Applied Music not more than two of the necessary fifteen units for graduation. Additional honorary credits in Applied Music may be allowed but only the two will count toward graduation. Not more than one credit per year in any one of the courses may be earned by any student. No less than one full unit in any of the Applied Music courses may be counted toward graduation.

C. Basis for granting credits

A detailed list of the requirements for granting credit and information concerning these requirements are to be found in the pamphlet on Applied Music obtainable from the State Department of Public Instruction.

The basic requirements for the granting of credit in Applied Music are:

1. State certification of the teacher in the branch of Applied Music in which credit is being sought
2. Adherence to the state rulings as to amount of credit, number and length of lessons, and amount of practice required
3. Permission of the high school principal granted to the students desiring to do this work for credit. It is not the intention of the plan to allow all high school students to enroll for four regular high school subjects plus Applied Music. A schedule of four high school subjects constitutes a full load of work for the average student. Except in the case of students of exceptional ability, estimated at not more than 10 per cent of the total, those who wish to enroll in Applied Music for credit should be enrolled in only three full credit high school subjects. If Applied Music is to be recognized as a full credit subject, high school principals will need to take a definite stand against indiscriminate enrollment of students in any branch of this work in addition to four full credit subjects. However, it should be kept in mind that any average student with keen interest in music and sufficient advancement to be enrolled in the work should be allowed to elect Applied Music in place of any of the other elective subjects in the high school curriculum, if credits in Applied Music are being granted by the school.
4. Adherence to miscellaneous state rulings concerning previous musical study by the student, public performances, additional music courses, etc.
5. Successful passing by students of an examination, given as required by the Applied Music Course, in all work for which credit is granted

D. Certification of teachers

The State Superintendent of Public Instruction, in accordance with regulations established by the State Board of Educational Examiners, grants special certificates valid for teaching certain branches of Applied Music, to those teachers who present satisfactory evidences of special proficiency for such teaching. In order that evidence of fitness to do this work may be secured in a definite form, certain requirements have been set forth and a procedure has been outlined. These requirements fall under the following heads:

1. Age
2. General education
3. Musical training
4. Teaching experience
5. Examination

The examination taken by all teachers desiring certificates in Applied Music consists of three parts: Written, Oral, and Practical, and is given by a Board of Music Examiners appointed by the State Superintendent of Public Instruction. Those successful in passing the examination are granted certificates which must be registered at the office of the local county superintendent of schools.

These certificates in Applied Music are not the same as the Special Certificates in Music, also issued by the State Department of Public Instruction. No certificate gives any teacher the right to give private music lessons for high school credit except an Applied Music Certificate in the **particular** branch (piano, voice, violin, etc.) being taught.

Complete information on the requirements, examinations, and certificates. renewals, etc., is also to be found in the separate pamphlet on Applied Music mentioned above under "C".

III. Courses of Study

Detailed courses of study, lists of materials, and syllabi for student examinations for each branch of Applied Music have been outlined by semesters and are included in the pamphlet mentioned above under "C".

Most of the additional information that will be necessary in putting Applied Music Courses into use will be found in the same pamphlet. Additional questions relative to the work will be answered at any time by the State Department of Public Instruction.

PART ELEVEN—MISCELLANEOUS

I. Music Memory Contests

A. Value

Experience in many schools has proven that music memory contests are excellent means of arousing and stimulating interest in listening to good music.

B. Outline of contest

1. Memory section

A list of worth while selections is chosen, and contestants are expected to learn to recognize them. Frequently, the ability to write not only the name of the selection heard, but also the name of the composer and his nationality is required. Suggestions for records of suitable selections are given in each of the units in the section of the course in Music Appreciation and History. A good contest list should be composed of one or more numbers from each of the units represented in that course.

2. **Appreciation section**

   In addition to the real memory work, each contest should include some other phase of work, such as recognition of one or more of the following:

   a. Instruments of the orchestra and their families
   b. Rhythms—waltz, march, gavotte, etc.
   c. Meter—number of beats in a measure
   d. Different types of voices
   e. Repeated themes
   f. Nationality in music
   g. Different types of songs—art songs, folk songs, opera arias, etc.
   h. Form in music
   i. Styles in music—classical, romantic, modern, etc.
   j. Styles of certain composers

C. Conducting the contest

1. **Orchestra**

   Cooperation of the high school orchestra in making these numbers familiar and in playing them for the final contest, will prove of valuable assistance in such a contest, and will provide worth while experience for the orchestra.

2. **Groups participating**

   a. School

      A music memory contest may be conducted within a class in Music Apreciation and History, within a music department, for the members of a music club, or for all the students in a school.

   b. Community participation

      In some cases, the music memory contest may be successfully made a community affair in which not only school students, but all music lovers in the community may participate.

3. **Records**

   Record dealers are usually glad to cooperate by having on hand records of the contest numbers.

4. **Prizes**

   Frequently local firms and organizations offer prizes to contest winners.

5. **Advertising**

   Considerable advertising of such a contest should be done through the local press, as the newspaper stories alone will do much to stimulate the musical life of the community.

6. **Materials**

   A great deal of material on the organization and conducting of a music memory contest may be secured from the National Bureau for the Advancement of Music, 45 West 45th Street, New York City. An excellent outline for use in preparation for a contest: **Study Helps in Developing Discriminating Listening,** may be obtained from the Music Supervisor's National Conference, 64 E. Jackson Blvd., Chicago, Illinois.

II. Harmonica Bands

A. Values

While harmonica bands are frequently considered to be of value in grade schools only, there are situations in which they may be of great value in high schools. The harmonica is an instrument that appeals to high school students. It requires the development of a certain amount of muscular skill, but is not as difficult as most other instruments for those who are beginning the study of music, and, therefore, can provide a foundation for the study of other instruments or of vocal music. Frequently, pupils will become interested in playing the harmonica and through it will learn to read notes, understand time, and develop ability in phrasing and interpretation. The cost of an instrument is so small as to make enrollment in a harmonica band within reach of all students.

B. Administrative problems

One or two rehearsals a week are sufficient for this instruction. Frequently, they can be worked in satisfactorily during parts of noon hours, activity periods, homeroom periods, etc. Ordinarily the work is not deserving of credit unless a certain amount of understanding of music fundamentals, note-reading, etc., is developed in connection with the acquiring of playing ability on the instrument. In such a case, one-quarter unit of credit per year would be a fair allowance if two full period rehearsals per week were conducted.

Any number of students, from about eight or nine on up, may be organized into a band. Sometimes smaller groups like quartets are also possible. Selections by such groups make very attractive program numbers.

C. Procedure

All harmonicas secured for a band must be in the same key. Usually the key of C is an easy key in which to start work. A small single reed harmonica is best for beginners. Any songs in available song books may be played on the harmonica with piano accompaniment as long as they are in the same key as the harmonica used, and have no accidentals. It is also possible to secure more expensive instruments on which all chromatic tones may be played. On these instruments any melodies within a range of about two octaves may be played.

The work may be done in unison or in parts. The ensemble playing and the accompanying study of music fundamentals provide an ideal foundation for students who will later start band, orchestra, or chorus work. Selections learned by a harmonica band should as nearly as possible be learned from the notes, and should be interpreted artistically.

The harmonica is sufficiently easy to play that a teacher may, with some individual practice, easily acquire the necessary skill on it to be enabled to start the band and teach pupils to play.

D. Bibliography

Detailed information on the technique of playing the harmonica and organizing a band may be secured from the National Bureau for the Advancement of Music, 45 West 45th Street, New York

City, and from M. Hohner, Inc., 114-116 East 16th Street, New York City.

Community and assembly song books contain a quantity of material suitable for use with harmonica bands.

The following books of selections arranged especially for the harmonica are also suggested. (Complete addresses of all publishers are given at the end of the music course of study.)

Book	Composer	Publisher
Instructor for the Hohner Diatonic Harmonica (Exercises and Unison Melodies)	Perry	Belwin
Hohner Harmony Book for Harmonica (Vol. 1—Four-Part Playing)	Perry	Belwin
New Standard Course for Harmonica (Unison melodies)	Synnberg	Cole
Harmony Course for the Harmonica (Two- and three-part work)		Cole

III. Montana Interscholastic Music Meet

A. Organization

1. State meet

The Montana high schools have a well-organized state high school music meet, originated by them, under their direct supervision, and ordinarily held annually. The rules for the meet are made by the Montana Interscholastic Music Meet Association (composed of the music teachers and high school principals of interested schools) at the time of the state meet. During the rest of the year, the activities of the meet are in charge of an Executive Board elected by the Association. The present organization provides for many contests, both vocal and instrumental, with division into two classes, A and B, for large ensemble contests. Class A schools are those having an enrollment of more than 300, and Class B schools those having an enrollment of less than 300. The state contest receives the cooperation and assistance of the National Bureau for the Advancement of Music, and is recognized as a preliminary to the National Band, Orchestra, and Chorus Contests. A festival of massed bands, orchestras, and choruses is held at the close of each meet.

2. District meets

Eight preliminary district meets are held in various sections of the state, and only the winners in these enter the state meet.

B. Values

The contest and festival are proving to be important factors in the building up of high standards in the music used and in the standards of performance in the high schools of the state. In spite of certain disadvantages that adhere to contests, the competitive spirit will arouse an interest and produce a quality of work in music that makes it invaluable. It behooves all principals and music teachers to be in close touch with the progress made, whether or not their schools enter the contest.

C. Necessary information

Frequent letters of information regarding the meet are sent to all high school principals each year by the Executive Board of the

M. I. M. M., by the town acting as host to the state meet if there be one, and by the town acting as host to the district meet in the district to which the school belongs.

IV. Music Clubs

A. Value

Students in certain of the music classes of a high school frequently desire more contact with music and further study of it than they are able to arrange for in their schedules. In such cases, music clubs can be of value by furnishing programs of study and entertainment at outside meetings.

B. Organization

1. Membership

Membership in such clubs may be limited to students enrolled in the music department, or may be open to all who are interested, as desired.

2. Time of meeting

Club meetings will probably be held during activity periods, after school, or in the evening. Particularly in case of the use of the evening hours, a club should not meet more than once every two weeks. In most cases once a month is as often as a good program can be prepared.

3. Organization

A music club should be a regularly organized group. The following officers are usually important: president, vice-president, secretary, treasurer, and program committee chairman.

4. Place of meeting

The school music room or a large room of similar type will be best for club meetings. A well-tuned piano and a phonograph should be available.

C. Programs

1. Planning programs

Topics for programs should be chosen at the beginning of the school year for the entire year, and it is usually well to have a committee or at least a chairman appointed for each program. It should be the duty of this committee (or chairman) to plan the program, make all necessary arrangements, and see that the program is properly conducted.

2. Types of programs

Two types of programs for the year may be planned:

a. A series of programs, developing one main topic which is chosen for the year. This topic may be similar in scope to one of the units in the course in Music Appreciation and History, and each program can take up some phase of it. For example, a club can take up the study of "Folk Music of the World" for its topic for the year, or "The Orchestra, its Instruments, and its Music," etc.

b. A series of unrelated programs on varied and interesting musical subjects

3. Special programs

In some cases, where a particularly fine program has been planned, it may be desirable to invite guests or even to have an "open program" to which the general public is invited. Sometimes a small fee can be charged for such programs.

4. **Stage deportment**

   These club programs will give an excellent opportunity for students to develop an understanding of correct stage deportment and to have practice in using it.

5. **Materials for programs**

   If one main topic is chosen for the programs of the year, suggestions on it may be found in the unit dealing with the same topic in the course in "Music Appreciation and History." Several of the books listed in the Bibliography for that course should be available for reference use by club members.

   If varied programs are planned, it will be well to choose one of the textbooks listed in the Bibliography mentioned above for regular use in planning the meetings. **People and Music** by McGehee, and **Music and Romance** by Kinscella, are particularly adaptable for use in this way, a chapter or two for a meeting.

   The National Federation of Music Clubs has done much in organizing school clubs of this type and frequently has material available for help in planning programs.

V. Massed Bands, Orchestras, and Choruses

A. Organization

An important development in the school music field within the last few years is the organization of massed bands, orchestras, and choruses composed of players and singers representing many different schools. Some of these are countywide in scope, some statewide, some include several states, and some are national. Blanks are sent to high schools for applications for the particular massed organization being formed. From the applications received, a balanced organization is chosen. A program of numbers is selected and each performer learns his own part before the time for the meeting of the entire group. A definite time and place for the meeting of the entire group is set and all of the members of the complete ensemble come together to rehearse for several days before giving a performance.

B. Value

These large ensembles are a wonderful source of inspiration and education, especially to students from the small schools. The exhilaration felt by those taking part in such a large organization, under an outstanding (and sometimes famous) director, leaves a thrill that will always be remembered. A really fine program, of difficulty far too great for the average high school organization, can be performed. Thus students get the intimate acquaintance so necessary to a real appreciation of the finest music and of the organizations that render it. They also learn to estimate the aims and values of their own school instrumental and vocal work. Students who have taken part in such ensembles are usually afterwards of great assistance in stimulating the spirit and keeping up the standard of work in their own school organizations.

C. Necessary information

At present, membership in the following massed organizations is open to Montana students:

1. The Montana All-State High School Orchestra, which meets annually at one of the district conventions of the Montana Education Association
2. The Northwest High School Orchestra, which meets biennially at the time and place of the Northwest Music Supervisors' Conference.
3. The National High School Orchestra and the National High School Chorus, which meet at irregular intervals at the time and place of the Music Supervisors' National Conference and of the Department of Superintendence of the National Education Association

Information regarding each of these is sent out in advance to high school principals and music directors. Additional organizations of this kind are continually being formed.

D. National Music Camp

The National Music Camp at Interlochen, Michigan, is a summer camp for advanced training of high school orchestra and band players. It is closely associated with the work of the National High School Orchestra. From applications received a group of students is chosen for the camp. Admission is on a fee basis, although scholarships are available. The camp offers wonderful opportunities for study and ensemble playing under the best teachers and directors in instrumental, vocal, and theoretical work. The surroundings are ideal. Further information in regard to the camp may be secured from the National Music Camp, Interlochen, Michigan. **The Overture**, a yearbook about the camp (obtainable from the address just mentioned), includes a wealth of information and pictures interesting to students and teachers alike. Similar camps on a smaller scale have been started in several other sections of the country.

VI. Tests and Measurements in Music

A. Values

Standardized tests in music make it possible to:

1. Test the musical ability of pupils
2. Discover marked musical ability
3. Evaluate methods of teaching
4. Check the accomplishments of a large group of students

B. Reliability of tests

A test can be an extremely valuable aid in confirming a teacher's judgment of a pupil's ability, or achievement, but tests should never be the only basis for making important decisions.

C. Types of tests

1. Aptitude tests
   a. Aim—to test the innate musical ability of students

b. Value

Aptitude tests in music may be of great assistance in testing the musical ability of students and in discovering any who have unusual talent. They will also bring to light the particular weaknesses that make certain phases of music study difficult for certain students.

c. Materials

(Complete addresses of all publishers are given at the end of the music course of study.)

- (1) The Seashore Measures of Musical Talent
  - (a) Set of Phonograph Records—Stoelting Company
  - (b) Manual of Instructions and Interpretations and Seashore Record Blanks—Stoelting Company
- (2) The Kwalwasser Test of Music Sensitivity
  - (a) Victor record number 35773
  - (b) Manual of Directions—RCA Victor Company
- (3) The Kwalwasser-Dykema Music Tests
  - (a) Victor records 302-306
  - (b) Tests and Manual of Directions—Carl Fischer, Inc.

2. Achievement tests

a. Aim—to test the student's increase in musical knowledge

b. Value

Achievement tests may be used to great advantage in testing students' musical preparation for certain courses. The tests of general musical knowledge will be helpful in ascertaining which members of a group should be required to take a course like "Introductory Music." Some of the tests are also of interest for use at the conclusion of a course to check the actual knowledge acquired by students during the course.

c. Tests of general musical knowledge

- (1) Kwalwasser-Ruch Test of Musical Accomplishment
  - (a) Published by Bureau of Educational Research and Service, University of Iowa
- (2) Gildersleeve Musical Achievement Tests
  - (a) Published by Teachers College, Columbia University
- (3) Beach Music Test
  - (a) Published by Bureau of Educational Measurements and Standards, Kansas State Teachers College, Emporia, Kansas

d. Tests of special types of musical knowledge

- (1) Kwalwasser Test of Music Information and Appreciation
  - (a) Published by Bureau of Educational Research and Service, University of Iowa
- (2) Hillbrand Sight-Singing Test (very elementary)
  - (a) Published by World Book Company
- (3) Hutchinson Music Tests, No. I. (Silent Reading and Recognition)
  - (a) Published by Public School Publishing Company
- (4) Torgeson-Fahnestock Music Test—A, Theory; B, Practice (Ear-Training)
  - (a) Published by Public School Publishing Company
- (5) Pressey Technical Vocabulary Test in Music
  - (a) Published by Public School Publishing Company

D. General Bibliography

(In addition to the books mentioned here, several of the books listed below under "Professional Reading Material for Teachers" include material on tests and measurements. Complete addresses of publishers are given at the end of the music course of study.)

Title	Author	Publisher
Tests and Measurements in Music	Kwalwasser	Birchard
Psychology of Musical Talent	Seashore	Silver, Burdett

VII. Music Room—Location and Equipment

A. Importance

Equipment and materials are of greatest importance to the success of a music department. The failure of many music departments to function properly in the work of the school is often a direct result of the lack of a suitable place for the meeting of the classes and the lack of minimum essentials of teaching equipment.

All of this equipment is as essential to music instruction as are benches and tools in a wood working shop or typewriters in a commercial department. Architects and purchasing agents might reasonably be asked to call in music directors for consultation when building plans are first projected.

Many of the suggestions given here have been taken from the **Fifth Yearbook of the Department of Superintendence of the National Education Association.**

B. Location and size

Since the music teacher and his various special groups play a large part in assembly activities, music rooms should be located near the auditorium. A room used for general musical purposes should be of sufficient size to accommodate the large groups which will frequently be assembled.

C. Seating

If the room is rectangular in shape, the seating should be across the long side. The seats should be of a kind that will encourage correct posture. If the same room or section of a room is used for both vocal and instrumental groups the seats should be movable. However, if a certain section of the room can be reserved for vocal or theoretical classes, it will be found advisable to have the seats fastened to the floor. If the seats can be arranged in tiers it will be easier for all the singers to follow their conductor and for the conductor to have all the singers under constant observation, features which are particularly desirable when groups are large.

D. General equipment

The equipment should include:

1. A **piano,** tuned at least twice a year
2. A **phonograph** and a supply of **records**
3. **Dust-proof wall cabinets** for the storing of music and materials
4. A **cabinet** divided into sections for filing **phonograph records** according to numbers as listed in the card index
5. **Card indexes** of two types, listing:
   a. **Phonograph records** in which each available selection is numbered to make it easily found in the cabinet, and is listed in at least three ways: title, composer, classification (folk music, chamber music, vocal solos, etc.)
   b. Information concerning the musical **abilities** and **achievements** of all pupils. The card used should permit of a cumulative record.
6. A **bulletin board** for the posting of programs, articles, and pictures having to do with music
7. **Blackboard** space covering one wall

8. Varied selections of **music** for each class conducted
10. A good selection of **books** and **magazines** on music (in the music room or in the school library). Many of the books and magazines which should be available to students are listed in the bibliographies given at the end of each section of this course of study. Those given in the Bibliography for "Music Appreciation and History" are of interest to students of any phase of music.
11. Seats in sufficient number for the largest group using the room

E. Band, orchestra and instrumental classroom

1. Location and size

The band and orchestra rehearsals are often conducted in the auditorium for several reasons, not the least of which may be that such organizations become so large that no ordinary schoolroom will contain them. But if the auditorium is not used, the room assigned for band and orchestra should be near or adjacent to the auditorium and of such a size that a large floor space may be available.

Class instruction on orchestral instruments or piano can usually be carried on in any schoolroom that has a reasonable amount of unoccupied floor space.

2. Equipment

The following equipment should be provided:

a. **Movable chairs**
b. **Music stands** of the adjustable but non-collapsible type
c. **Folios** for band and orchestra music
d. **Lockers** for instruments
e. A **piano**, preferably a grand, so as to enable the performer to see the orchestra director
f. The **heavier band** and **orchestral instruments**, such as kettledrums, bass viols, brass basses, and the more unusual instruments, such as cellos, violas, oboes, bassoons, and French horns
g. A simple **card index** device for recording information concerning pupils, as well as concerning school-owned instruments

VIII. Professional Reading Material for Music Teachers

A. Value

Suggestions of books and magazines valuable in the teaching of certain particular phases of music are given in the bibliography for each section of this course of study. In addition there are a number of excellent books and magazines dealing with school music teaching in general, or with many of the related subjects upon which the music teacher is expected to be informed. The publications of the National Bureau for the Advancement of Music and the Music Supervisors' National Conference, and those of the National Education Association relating to music, should also be familiar to all music teachers. The field of school music is constantly being enlarged, and methods of teaching are being improved. Consequently, the teacher who would be successful must not neglect up-to-date professional reading matter.

B. Materials

(See also the books and magazines suggested above in the bibliographies of each section of the course of study. The complete names and addresses of all publishers are given at the end of the music course of study. Books and magazines especially recommended are marked *.)

1. Books and pamphlets

The Teaching of School Music

Title	Author	Publisher
*Yearbooks of the Music Supervisors' National Conference		Music Supervisors' National Conference
*The Psychology of School Music Teaching	Mursell-Glenn	Silver, Burdett
*Principles of Musical Education	Mursell	Macmillan
*Music in the Junior High School	Beattie, et al	Silver, Burdett
School Music Teaching	Gehrkens	Birchard
High School Music Credit Course		Music Supervisors' National Conference

Miscellaneous Related Subjects

Title	Author	Publisher
*Music Notation and Terminology	Gehrkens	Laidlaw
Contests, Competition and Festival Meets		Music Supervisors' National Conference
*The Importance of Being Rhythmic	Pennington	Putnam
National Music Week (pamphlets)		National Bureau
Community Singing (pamphlets)		National Bureau
Musical Quotations (pamphlets)		National Bureau
Junior Music Club Course of Study (pamphlets)		National Bureau
Music in Industry (book and pamphlets)		National Bureau
Christmas Caroling (pamphlets)		National Bureau
The Philosophy of Music	Seymour	Harpers
Music as an Educational and Social Asset	Barnes	Presser

2. Magazines

*The Music Supervisors' Journal, 64 East Jackson Boulevard, Chicago
*School Music, Van B. Hayden, Keokuk, Iowa
*The Supervisors' Service Bulletin, Educational Music Bureau, 434 South Wabash, Chicago

IX. Professional Organizations for Music Teachers

The Music Supervisors' National Conference (of which the Northwest Music Supervisors' Conference is a part) is a professional organization of public school music supervisors and teachers, and membership therein opens up valuable contacts and sources of help to the teacher. The Music Supervisors' Journal is the official publication of the conference, and the Yearbooks mentioned in the bibliography above contain full reports of the work and programs of the conference. Both the Journal and the Yearbooks are invaluable to the school music teachers, and membership in the conference and attendance at as many of its meetings as possible, provide the finest opportunities available to a school music teacher, of keeping up-to-date in methods and materials. The meetings of the Montana Education Association and the Montana State Music Teachers' Association also provide worth while programs for the public school music teachers.

PART TWELVE—INDEX OF PUBLISHERS

Allyn and Bacon, 560 Mission Street, San Francisco, California
American Book Company, 330 East 22nd Street, Chicago, Illinois
American School of the Air, 485 Madison Avenue, New York City
Emil Ascher, Inc., 315 Fourth Avenue, New York City
Associated Music Publishers, Inc., 25 West 45th Street, New York City
Augsburg Publishing House, Minneapolis, Minnesota
A. S. Barnes and Company, 6 West 44th Street, New York City
C. L. Barnhouse, Oskaloosa, Iowa
Belwin, Inc., 43 West 23rd Street, New York City
Irving Berlin Standard Music Corporation, 1607 Broadway, New York City
C. C. Birchard and Company, 221 Columbus Avenue, Boston, Massachusetts
Boosey and Company, 113 West 57th Street, New York City
The Boston Music Company, 116 Boylston Street, Boston, Massachusetts
George F. Briegel, 1674 Broadway, New York City
Chappell-Harms, Inc., 62 West 45th Street, New York City
J. W. Chester, Ltd., see Edward B. Marks Music Company
John Church Company, see Theo. Presser Company
M. M. Cole Publishing House, Chicago, Illinois
Columbia Phonograph Company, New York City
Crawford Music Corporation, 145 West 45th Street, New York City
Cundy-Bettoney Company, 106 Chestnut Avenue, Boston, Massachusetts
J. C. Curwen and Sons, see E. C. Schirmer
Curtis Standard Tests, 1807 East Grand Boulevard, Detroit, Michigan
T. S. Denison and Company, 623 South Wabash Avenue, Chicago, Illinois
Oliver Ditson Company, 179 Tremont Street, Boston, Massachusetts
E. P. Dutton and Company, Inc., 286-302 Fourth Avenue, New York City
Educational Music Bureau, 434 South Wabash Avenue, Chicago, Illinois
J. S. Fearis and Brother, 2204 Ainslie Street, Chicago, Illinois
Fillmore Music House, 528 Elm Street, Cincinnati, Ohio
Carl Fischer, Inc., 306 South Wabash Avenue, Chicago, Illinois
J. Fischer and Brother, 119 West Fortieth Street, New York City
H. F. Fitzsimons Company, 23 East Jackson Boulevard, Chicago, Illinois
Harold Flammer, Publisher, Inc., see G. Schirmer, Inc.
Sam Fox Publishing Company, The Arcade, Cleveland, Ohio
John Franklin Music Publishing Corporation, 254 West 47th Street, New York City
Samuel French, Publisher, 25 West 45th Street, New York City
Gamble Hinged Music Company, 228 South Wabash Avenue, Chicago, Illinois
Garden City Publishing Company, Garden City, Long Island, New York
Ginn and Company, 2301 Prairie Avenue, Chicago, Illinois
H. W. Gray and Company, 159 East 48th Street, New York City
Hall and McCreary, 434 South Wabash Avenue, Chicago, Illinois
Harcourt, Brace and Company, 161 East Erie Street, Chicago, Illinois
Harlow Publishing Company, Oklahoma City, Oklahoma
Harper and Brothers, 49 East 33rd Street, New York City
Hinds, Hayden and Eldredge, 5 Union Square, New York City
Raymond A. Hoffman Company, 509 South Wabash Avenue, Chicago, Illinois
M. Hohner, Inc., 114-116 East 16th Street, New York City
R. L. Huntzinger, Inc., New York City
Walter Jacobs, Inc., 120 Boylston Street, Boston, Massachusetts
Jenkins Music Company, 1013-1015 Walnut Street, Kansas City, Missouri
Ross Jungnickel, 122 Fifth Avenue, New York City
Kay and Kay Music Publishing Corporation, 254 West 47th Street, New York City
Kenyon Press, Wauwatosa, Wisconsin
Pierre Key, Inc., 119 West 57th Street, New York City
Keystone View Company, Meadville, Pennsylvania
Alfred A. Knopf, 730 Fifth Avenue, New York City
Laidlaw Brothers, 320 East 21st Street, Chicago, Illinois
Leedy Manufacturing Company, 403 Leedy Bldg., Elkhart, Indiana
Horace Liveright, Inc., 61 West 48th Street, New York City
Lorenz Publishing Company, 213 South Wabash Avenue, Chicago, Illinois
Ludwig and Ludwig, 1611-27 North Lincoln Street, Chicago, Illinois
Macmillan Company, 350 Mission Street, San Francisco, California
Edward B. Marks Music Company, 223-225 West 46th Street, New York City
McDonough-Galin-Paris-Cheve Methods, Inc., 2107 Walnut Street, Philadelphia, Pennsylvania
McKinley Music Company, 1501-15 East 55th Street, Chicago, Illinois
Mentzer, Bush Company, 2210 South Park Avenue, Chicago, Illinois
Miessner Institute of Music, 1219 Kimball Building, Chicago, Illinois
Music Supervisors' National Conference, 64 East Jackson Boulevard, Chicago, Illinois
National Broadcasting Company, Inc., 711 Fifth Avenue, New York City
National Bureau for the Advancement of Music, 45 West 45th Street, New York City
National Digest, Inc., 13 Astor Place, New York City
National School Band and Orchestra Association, 230 North Michigan Avenue, Chicago, Illinois
National Service Publishing Company, Annapolis, Maryland
Novello, see H. W. Gray and Company
Oxford University Press, see Carl Fischer, Inc.
The J. A. Parks Company, York, Nebraska

J. W. Pepper and Son, Inc., 5012-22 Sansom Street, Philadelphia, Pennsylvania
Peters Edition, 152 West 44th Street, New York City
Theo. Presser Company, 1714 Chestnut Street, Philadelphia, Pennsylvania
Public School Publishing Company, Bloomington, Illinois
G. P. Putnam's Sons, 2-6 West 45th Street, New York City
R. C. A. Victor Company, Inc. (Educational Department), Camden, New Jersey
Rubank, Inc., Campbell Avenue and Lexington Street, Chicago, Illinois
E. C. Schirmer Company, 221 Columbus Avenue, Boston, Massachusetts
G. Schirmer, Inc., 3 East 43rd Street, New York City
A. P. Schmidt, 8 West 40th Street, New York City
Paul A. Schmitt Music Company, Minneapolis, Minnesota
Charles Scribner's Sons, 597 Fifth Avenue, New York City
Silver, Burdett and Company, 149 New Montgomery Street, San Francisco, California
Sims Song Slide Corporation, Kirksville, Missouri
Sims Visual Music Company, Quincy, Illinois
Southern California Music Company, 806 South Broadway, Los Angeles, California
Standard Oil Company of California, 225 Bush Street, San Francisco, California
C. H. Stoelting Company, 424 North Homan Avenue, Chicago, Illinois
Successful Farming, Des Moines, Iowa
George Sully and Company, 114 East 25th Street, New York City
Clayton F. Summy Company, 429 South Wabash Avenue, Chicago, Illinois
Teachers College, Columbia University, New York City
University of Nebraska, Extension Department, Lincoln, Nebraska
University of Chicago Press, Chicago, Illinois
University of Iowa (Bureau of Educational Research Service), Iowa City, Iowa
University of North Carolina Press, Chapel Hill, North Carolina
University Publishing Company, 2126 Prairie Avenue, Chicago, Illinois
Victor Company, see R. C. A. Victor Company
Wallace Publishing Company (Education Department), Des Moines, Iowa
White-Smith Publishing Company, Boston, Massachusetts
Wick's School Music Bureau, Minneapolis, Minnesota
Willis Music Company, 137 West Fourth Street, Cincinnati, Ohio
M. Witmark and Sons, 1650 Broadway, New York City
The B. F. Wood Music Company, Boston, Massachusetts
Woods Music Company, 1421 Third Avenue, Seattle, Washington
World Book Company, Yonkers-on-Hudson, New York

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COURSE OF STUDY IN FINE ARTS

I. Introductory Statement

"I believe that harmony is the law of life and is fundamental in the Divine economy; that man expresses this law in harmony, which is beauty, in proportion to its possession of his consciousness, and his response to it in his daily living. I believe that the quality of harmonious relationship existing between colors and forms, or between parts and the whole, or between the worker and his material in any field of labor, constitutes Art. For Art to appear in the works of man, or for him to appreciate its presence, it must be there as a working element in both his conscious and unconscious life. It must be the cause, and not the effect, of harmonious living and working. I believe that the realization of one's ideals in any material form is that man's Art expression, and that his understanding of its beauty is the highest form of his Art appreciation."—Frank Alvah Parsons

II. Administrative Problems

A. Units of credit

High school credit may be given in Art on the same basis as for other high school laboratory subjects. One full unit of credit may be given in Fine Art, provided the subject is pursued at least 170 recitation periods of 90 minutes each.

B. Qualification and training of teachers of fine arts

While the certification law of Montana permits a teacher of Fine Arts to be granted "Special Certification", valid to teach art in the high school, on lesser qualifications than those required for graduation from a fully accredited four-year college or university, nevertheless, the standards of accrediting set up by the State Board of Education recommend that a teacher of high school subjects be a graduate, or the equivalent, of a fully accredited four-year college or university and that the practice of a teacher being assigned to teach subjects outside of the major field of preparation be discouraged.

1. The State Department of Public Instruction recommends that, insofar as possible, all teachers of fine arts should have as a minimum preparation the following pre-requisites:
    - a. A college degree from a fully accredited college or university with a major of thirty-five quarter hours of college credit in the branch of fine arts to be taught. If it seems advisable the school system employing the teacher may deduct five hours for each unit of credit earned in high school in the branch of fine arts to be taught.
    - b. Evidence of mastery of the subject matter and skills of the fine arts curriculum for which professional training is sought
    - c. Supporting courses in related fine arts subjects
    - d. Courses in education including
        - (1) Special methods in the fine arts subjects
        - (2) Organization and administration of work in fine arts
        - (3) Supervised practice teaching in fine arts subjects

III. Objectives in Art Teaching

The purpose of art teaching in the high school should be to develop an appreciation of beauty, to show boys and girls that art is a growing thing, and that it has many practical values. The idea of utility may become attached to art in its various forms without detracting from its beauty. The student of art should learn to apply the art principles to real living, to the problems of life. The "useful" arts will be no less useful by the application of the principles of beauty—of the "fine" arts. The useful may be fine, and the beautiful useful. The cultivation of the beautiful is necessary to the complete fulfillment of one's personality and so the beautiful and its development become useful. A course in art should do the following for a student:

A. Cultivate taste
B. Develop skill in the use of materials
C. Aid in self-expression
D. Cultivate creative thinking
E. Give him standards of good form that may carry over into everyday life

The following outlines have been prepared with the above aims in mind.

IV. Content and Procedure

First-Year High School Art

A. Introductory statement

The following course for the first-year student is outlined according to projects based upon years of experiment with student ability in drawing and painting. The project method allows the student with ability to progress as rapidly as he wishes with the course and allows the slower student to take his time. Student conferences with the instructor should be definitely scheduled weekly. The instruction is necessarily individual.

B. Objectives

The aims of the first year of high school art are:

1. To teach appreciation of color, line, and mass, through application
2. To encourage the use of a variety of mediums of artistic expression in drawing and painting
3. To develop in a logical way the ability of the talented student
4. To acquaint the untalented student with means of self-expression that he may be better able to express himself should no further work be taken

C. Outline of projects for first semester

1. Development of Common Print Alphabet
2. Application of Common Print Alphabet to a simple show card
3. Development of Shaded Common Print Alphabet in Color
4. Creating a simple poster in tones of gray using illustration and Common Print Alphabet
5. Creating a poster in color using illustration and Common Print Alphabet
6. Creating a spatter picture of simple design
7. Creating a spatter picture of more intricate design
8. Drawing a still life set in pencil outline

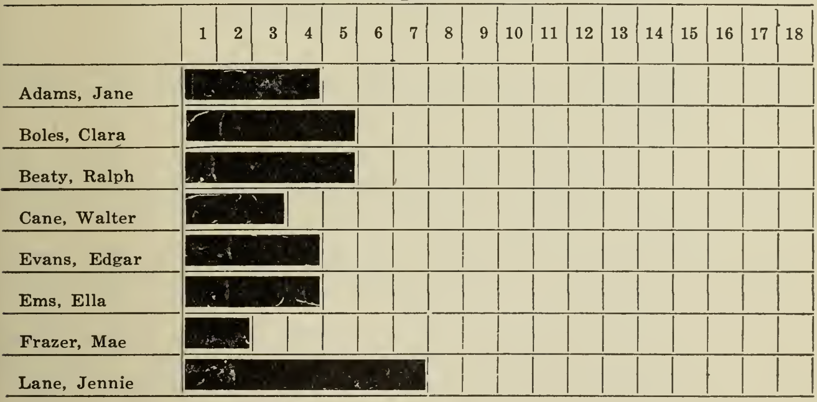
9-10-11. Same as number 8
12. Drawing a still life set, showing shadows with pencil
13-14-15-16-17-18. Same as number 12
19. Developing the Old English Alphabet in ink
20. Applying the Old English Alphabet to a decorative motto
21. Developing the Near German Poster Alphabet
22. Applying the German Poster Alphabet to a show card in colors
23. Developing the slant Italic Alphabet
24. Applying the Italic Alphabet to a printed paragraph
25. Repeating any one project which has been of interest during the past semester

D. Outline of projects for second semester

26. Developing a 12-color wheel using tempera as a medium
27. Designing a book jacket in full color
28. Designing a cover for a commercial booklet to advertise a modern commodity
29. Designing a cover and fly leaf for a commercial booklet
30. Drawing in pencil a full length erect figure from a photograph
31. Drawing in pencil a full length figure not in an erect position from photograph
32. Drawing in pencil a human face from photograph
33-34. Drawing in pencil landscapes from photographs
35. Drawing in pencil an animal from photograph
36. Drawing in pen and ink to master lines used in sketching
37. Drawing in pen and ink any subject
38. Drawing in pen and ink from photograph
39. Creating a design in ink to be used as a commercial letterhead
40. Drawing with brush and ink any subject
41. Same as number 40
42. Creating a design for a monogram using own initials
43. Creating a design for a monogram using any combination of initials
44-45. Creating designs for commercial trademarks
46. Developing a town booster poster in full color
47. Developing a "better home" poster in full color
48. Developing a school booster poster in full color
49. Repeating any one project of interest during semester
50. Repeating any one project of interest during the entire year

As each project is completed, checked, and graded, the student's score should be plotted on the class progress chart as below:

Class Progress Chart



The student's job sheets are left on file but should be open to his inspection at any time for a period of six weeks. Should he complete his work sheets before the rest of the group, his time may be occupied in further work in any one line which interests him. Should he be slower than the rest of his group and not complete the entire list of projects, the instructor will need to reckon his case upon merit.

Second-Year High School Art

A. Introductory statement

The following course for the second-year student is arranged in units according to work studied and is elastic enough to permit the introduction of new projects relating to the subject at hand.

B. Objectives

The aims of the second year of high school art are:

1. To continue the development of appreciation of color, line, and mass
2. To encourage power to observe
3. To develop imaginative powers
4. To develop ability to distinguish good from poor in the field of art
5. To broaden one's background through study of the masters

C. Outline of study

1. **Period Art**
   a. Primitive Art

   Sources of knowledge; the cave man's attempts; the Peruvian and his art; the lake dwellers. The influence of the limitations of the period upon its art.

   Student activities

   Allow student to make a sketch of a modern subject according to the primitive characteristics. Evolve a design for a belt or border using Peruvian methods of evolution.

   b. Egyptian Art

   Sources of knowledge and reasons for such sources; tombs; architecture; color; characteristics; limitations.

   Student activities

   Allow the student to develop a mural of a modern activity using the Egyptian characteristics.

   c. Assyrian Art

   The great mounds of the Tigris and Euphrates Rivers; characteristics of the people; characteristics of their art; limitations.

   Student activities

   Allow the student to develop a sketch of a modern activity using the Assyrian characteristics. He may make a miniature mud wall using Assyrian methods of design.

   d. Grecian and Roman Art

   (1) Qualities developed in Grecian art—line, interval, flesh realism, power, movement; vase painting; value; characteristics; limitations.

   (2) Influence of the Greeks upon the Romans; Romans first lost beauty in art; then their real art—seen in triumphal arches, Roman baths, the Colosseum, and the Aqueduct.

Student activities

Let the student construct a vase painting of a modern activity or American folklore using the terra cotta and glaze as did the Greeks. Apply to papier-maché dish or vase.

e. Moorish Art

History of the Moors; religion; effect of religion on art; characteristics; limitations. Study of the Alcazar of Seville, the Mosque at Cordova, and the Taj Mahal at Agra.

Student activities

Allow the student to develop a mosaic design of geometric symmetry; place own name in definite area according to Moorish writings; and create design unit using scroll and flourish as the Moors did. He may construct a vaulted arch as did the Moors and decorate same as they did.

f. Indian (Hindu) and Persian Art

Source of knowledge; characteristics of art; limitations.

Student activities

Let student draw some modern activity using the Hindu characteristics in portrayal.

g. Chinese and Japanese Art

History of development; methods of execution; characteristics; limitations; and study of the method of block printing.

Student activities

Allow students to construct block prints using linoleum as a block medium; construct book plates, greeting cards, textile design units, etc.

h. Gothic Art

The Renaissance, history; Gothic Architecture; its characteristics, the stained glass windows, how constructed, effect obtained; the Amiens Cathedral, Rheims Cathedral, and Strassburg Cathedral.

Student activities

Using a modern motif design and water color, allow students to draw a plan for a Gothic window using the Gothic characteristics.

Notebooks are urged for the above work and clippings and designs may be clipped into the notes. The above study is designed to occupy perhaps one-half of the year's work. The student's work should be charted as in first year plans.

2. **World's masters**

The following work will involve the use of notebooks and miniature reproductions of artists and works which may be pasted in notes as studied. These pictures are available through John W. Graham Company, Spokane, Washington.

In connection with the study of the World artists and their work it should be brought out just how the life of the artist influences his art. When the picture is being studied much may be said as to why the subject has been well handled or not. Of course, in a reproduction, the original color is in part lost but one may enjoy the line, subject, mass, and form of the artist's work.

a. Italian artists
Fra Angelico: Life history, "Angel"
Botticelli: Life history, "Coronation of the Virgin"

DaVinci: Life history, "Mona Lisa", "Last Supper"
Angelo: Life history, "Holy Family", "Last Judgment", "Fall of Man", "David"
Titian: Life history, "Tribute Money"
Del Sarto: Life history, "Madonna of the Harpies", "John"
Raphael: Life history, "Sistine Madonna", "Transfiguration"
Guido Reni: Life history, "Ecce Homo", "Aurora"

b. French artists

Millet: Life history, "The Gleaners", "Angelus", "Going to Work", "Water Carrier", "Feeding the Hens"
Corot: Life history, "Spring", "Dance of the Nymphs", "The Lake"
Breton: Life history, "Song of the Lark", "The Gleaner"
Bonheur: Life history, "Plowing", "Horse Fair", "Coming from the Fair", "A Humble Servant"

c. Spanish artists

Murillo: Life history, "Children of the Shell", "Melon Eaters", "Immaculate Conception"
Velasquez: Life history, "Surrender of Breda", "Philip IV"

d. German artists

Dürer: Life history, "Saints John and Peter", "Adoration of the Magi", "Praying Hands"
Hofmann: Life history, "Christ of Gethsemane", "The Last Supper"
Holbein: Life history, "Martin Luther", "Edward VI"

e. Dutch artists

Rembrandt: Life history, "The Night Watch", "The Mill", "Anatomy Lesson"
Franz Hals: Life history, "Laughing Cavalier", "The Jester"
Ruysdael: Life history, "The Windmill"
Alma-Tadema: Life history, "Reading from Homer"

f. Flemish artists

Van Dyck: Life history, "Children of Charles I", "Baby Stuart"
Rubens: Life history, "Descent from the Cross"

g. British artists

Reynolds: Life history, "Age of Innocence", "Miss Bowles", "Angel Heads"
Turner: Life history, "Fighting Temeraire", "Sun Rising in the Mist"
Gainsborough: Life history, "Blue Boy", "George III", "Mrs. Siddons"
Watts: Life history, "Sir Galahad", "Hope", "Love and Death"
Burne-Jones: Life history, "Hope", "The Golden Stairs", "Mirror of Venus"
Landseer: Life history, "Saved", "Odin", "The Connoisseurs"

h. American artists

Hitchcock: Life history, "Flower Girl of Holland", "Holland Morning"
Whistler: Life history, "Mother", "Little Rose"
Alexander: Life history, "Peonies", "Blue Bowl", "The Gossip"
Inness: Life history, "After a Summer Shower", "New Born Lamb"
Sargent: Life history, "Frieze of the Prophets"
St. Gaudens: Life history, "Adams Memorial", "Lincoln", "Hiawatha"

Taft: Life history, "Spirt of the Lakes", "Fountain of Time", "Black Hawk"

3. **Perspective**

   As a break between the study and notebook work of the Period Art and the World's Masters, a thorough study and application of the rules of perspective are suggested. This should begin by a study of pictures wherein a definite perspective is seen. The students may then copy a few of these pictures in simple lines only. As a result of such study the students should formulate their own conclusions relative to the rules of perspective; and compile in notebook together with a simple illustration. This work may be followed with the drawing of simple sets of rectangular objects arranged in groups by the instructor. Next, interiors of rooms should be drawn; then the exterior of buildings, and finally a street scene from the actual setting. In each instance there should be a review of the laws of perspective as applicable to the present case. Final drawings are to be finished in ink and toned with color.

4. **Free-hand sketching**

   Toward the close of the year when weather is pleasant the work of out-door sketching in pencil will be found interesting. For this purpose a simple "finder" is made by cutting in a piece of heavy cardboard 4″ by 5″ a rectangle 2¼″ by 3″ which will correspond in proportion with a 9″ by 12″ piece of drawing paper used in sketching. Such a "finder" aids one in making up the composition of the picture to be sketched. Picturesque settings should be selected for drawings—an old shed, a stone wall, a clump of gnarled trees, a tumble-down barn, and the like. The student should strive for simplicity of line and life through definite areas of light and shade. Very interesting drawings are made through the use of a colored pencil instead of the lead pencil. The teacher may suggest to the student that he try the blue, the red, or the brown pencil for interesting results.

Third-Year High School Art

A. Introductory statement

The aims given below are developed through a specialized course which follows. The group which has enrolled for this course has taken two years of previous training and has a good background for such specialized work as this year will involve. The instructor will find in this group some fertile minds for instruction in the field, and talent will here become more evident as instruction progresses. Individual cooperation between the instructor and student will bring unforeseen results. Definite technique should be encouraged as it is in technique that individualism shows itself. Encouragement and guidance are paramount.

B. Objectives

The aims of the third year of high school art are:

1. To acquaint the student with definite rules of composition whereby pleasing pictures may be created
2. To acquaint the student with means of illustration whereby his visual ideas may be transcribed to the paper, canvas, or board
3. To further encourage the student's power to observe
4. To further enable him to discern the beautiful from the not beautiful
5. To further develop the imaginative powers

C. Outline of study

1. Water wash drawing

The teacher should develop a feeling of mass through light and shade by selecting a photograph of a landscape which appeals to the individual. The National Geographic, or the student's own collection of snapshots, or the picture section of the Sunday paper are excellent sources. The picture should be reproduced on a good grade of water color paper, using black water color as a medium. The teacher should not hesitate to suggest boldness in execution and application of rules of composition to the picture, leaving out the non-essential details.

The landscape wash drawing should be followed with work in portraiture. Some characteristic photograph of a person showing a full-length figure should be selected. The student should strive for character in costume and pose. The current movie magazines are suggested as a source here. The aim should be to develop the figure in boldness of mass and line to obtain feeling of strength in the drawing.

This work should be followed with a study of the human face in its character and proportions. Such examination may be made from a photographic study of a face obtained from any source. Here again the student should try for boldness in execution, leaving out the unimportant which will detract from the composition of the whole. It would be valuable to deviate from the use of black in the water wash by allowing the use of other wash colors, as the use of brown alone, or red alone, or blue alone.

The student should then go over the same routine of development as before—the landscape, the full figure, and the human face—using full water coloring. As before, the teacher should encourage boldness in application, paying close attention to choice of color in relation to the mass it is being applied to.

Then, selecting any of the above combinations of water wash means of portrayal, the student may create an illustration of activity as read from a modern story, poem, or folk lore, such as may appeal to him. The student, while developing in the use of water color as a medium of portrayal, should be encouraged in the study of current illustrations wherein water-washes are employed. Aid should be given in the collection of an extensive folio of wash drawings as clipped from current periodicals, and an ability should be developed to differentiate between good, medium, and poor sketches in water wash.

2. Oil painting

This is an old and not at all uninteresting or unpopular method of portrayal applicable to use in the hands of the modern high school student of ability and training. In connection with the use of oils the **Riedell Color Charts** are of value in the development of a feeling of balance and harmony in mass, tone, and color. These charts are obtainable from C. H. Riedell of the State University at Missoula. The student is given one chart to be completed in tones of gray. With the use of black and white oil paints a color wheel of twelve tones is mixed from white to black, the graduations being equal and in tone. Any one tone is employed as a background for all squares and rectangles of the chart. Then, by mathematical steps, the twelve tones of gray are applied—two to each square until the squares are filled. Care should be taken that the proper amount of each tone is applied so as to bring out the proper relationship according to mass and area. This work trains the eye to a feeling of proper relationship of tone values upon a common background within a definite area.

The development of the Riedell Chart in grays should be followed by the selection of a photograph of a landscape or a portrait. The student may select either as his first. The same development is followed in oils as in water wash, using only the two—one landscape and one portrait to be done in tones of gray. A canvas panel 10″ by 14″ is desirable. The entire surface is painted in both projects. Careful application in bold masses of light and shade should be encouraged in all oil work, leaving out any non-essential parts which will detract from the composition and beauty of the whole.

The work in gray oils should be followed with the same routine in full color oil paints. The Riedell Chart will introduce the work in color as it did in grays. Here the colors are arranged in the complete wheel from yellow, through yellow-orange, orange, red-orange, red, red-violet, violet, blue-violet, blue, blue-green, green, yellow-green, back to yellow. These are applied in combinations of two upon a common background; thus the student obtains a definite feeling of related color and mass upon a common background within a definite area.

After completing the work on the Riedell Chart there should be work in full color in landscape and portrait as was done in the grays. While studying oils as a means of portrayal, the student should be guided and encouraged in the study and collection of illustrations done in oils by modern artists. These pictures should be classified after careful study, and criticism by the student should be encouraged. The teacher should in every way encourage freedom and pure joy in the use of oil paints as a medium of portrayal. The development in oil painting is logical, and an efficiency in the use of oils should be the gross result.

3. Pastel sketching

The freedom and ease of pastel sketching is altogether delightful to the advanced student. A box of twenty-four colors and a drawing tablet of rough paper is all that is necessary in this work. It is well to begin work with the sketching of a still life arrangement—a bowl of flowers, perhaps. The background is made of a flat color—this may be rubbed smooth with the finger tips. The masses are sketched in with a neutral color. The rest of the coloring is done in complete and unblended strokes of the crayon itself. Bold use of colors in areas of light and shadow should be urged. The student must never be afraid to use color. After the sketch is completed, the drawing should be immediately sprayed with Fixatif. Several still life sketches should be made from arrangements differing in degrees of difficulty but all of interest to the student.

After the work in still life something should be done with portraiture from real life. This will be of interest to the student but involves less freedom of imagination. A fellow student from outside of the class will be a willing subject. The background is here left until last. The general outline of features is sketched in with a pale color. The complexion is smoothed with the finger tips and shadows carefully blended. The outstanding features and hair should be sketched in without blending. The background is worked in last of all. Several sketches from life and of varying angles of the face should be made by the student in order to acquaint him with the coloring of the human face together with its general proportions and composition.

Portraiture should be followed with landscape sketching. In this work a "finder" will be found very useful. The student should here work from the furthermost point, finishing with the objects of the immediate foreground. The sky and clouds alone are blended with the finger tips while the rest of the picture should be done with the crayon only. The student should be permitted to make several sketches, selecting his subjects himself, being careful of composition and interest.

By this time the student will be able to place on paper with very little effort the subjects in the form and the color in which he sees them. Some guidance should be given but no interference ought to be made relative to the technique being developed by the student, because it is his technique which will stand him apart from any about him.

Fourth-Year High School Art

No exacting course of study is outlined for the fourth year student. This student has undoubtedly proved himself able in more than one phase of development in the three years which he has spent in study in Fine Arts. Because of his interest and pleasure he should this year be allowed to return and develop further in any one or two fields which have interested him. Perhaps he enjoys show card work. This year should enable him to work in this field. Here he should be given further guidance with a possible opportunity to commercialize his efforts. Perhaps he wishes further work in oils, or in water color, or in any other one distinct field. Further guidance should be given him to any degree to which he may strive. He may wish to attempt some new means of self-expression in his art. Perhaps he will wish to try modeling, sculpture, block printing, or design. Encouragement should ever be had from his instructor and no obstacle put in the way of his development.

Because this is a class for individual development it will be a class of many-sided interests and endeavors. The work will require little motivation on the instructor's part but will need a great deal of individual guidance and study on his part. Direction and not ridicule or belittling in any way is what every student deserves and must have.

The Art Club

The function of a High School Art Club—it may be called the Brush and Ink Club—is to give opportunity to any or all of the high school student body who may be definitely interested in the work of Fine Arts as it is studied in the club meetings. The club should have a constitution which governs without hampering its activities. The officers that should be provided for are: a presiding president with appointive powers in committee activities; a vice-president to preside in the absence of the president; a secretary-treasurer to keep the minutes of each meeting and the record of attendance. If club activity is to be made valuable and worth while, absence should be dealt with as is absence from a class period.

The club might meet during the activities period if the school provides such period, or it might meet after school hours if no such period is provided. If the Art Club is to be considered a part of the school work (a regular activity) no dues should be required.

Club activities:

The work should be outlined for a semester in advance; for instance, the work of the semester may be in plaster of Paris for a first project. To begin with, students study the chemical make-up of the plaster and then report to the club upon their findings; next, students study what may be done in the field of Fine Arts with this medium.

The making of tiles, both decorative and practical, is a simple plaster of Paris project for the club. This takes the club into the field of design. When each individual has created a simple design, he transfers it to heavy cardboard which is cut in the shape of the design; the cardboard is then pasted upon a plain piece of board, the size and shape of the finished tile. By placing slats of heavy cardboard on all edges, a mold is made for the thorough treating with cold cream prior to pouring the plaster. The resulting tile should be reinforced by criss-crossed bits of string as the plaster is being poured. After removal from the mold, the tile may be decorated with tempera colors and finally shellacked. For hanging on the wall, the tile must have a hanger placed in the plaster before hardening; a bent hair-pin has served the purpose nicely.

This first project and the mystery of the plaster may lead the club thought into further and more intricate work in the medium. It will be found that class members will suggest a surprisingly interesting series of new projects in plaster, and the results will show much of individual enterprise. The following projects in plaster of Paris have been very carefully worked out in clubs:

Wall tiles
Fireplace tiles
Tea tiles
Hot dish tiles
Book ends
Trays
Powder and jewel boxes
Death masks

Additional club projects that merit consideration are:

Leather work
Clay modeling
Weaving
Jewelry
Papier-maché masks
Block print in textile

Other club activities might include:

Sponsoring local Fine Arts exhibits
Cooperating with other school departments and clubs where the club services may be of value

The life of any club will depend upon the interest taken by the individual member. It is the duty of the sponsor to see that such interest is aroused and that it is kept alive.

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COURSE OF STUDY

State of Montana

HIGH SCHOOL

Industrial Arts
AND
Trade and Industry

Elizabeth Ireland
State Superintendent of Public Instruction
Helena
1932

FOREWORD AND ACKNOWLEDGMENT

This Course of Study in Industrial Arts and Trade and Industry is being offered as a tentative program in this field for the secondary schools of Montana. It is but tentative and the State Department of Public Instruction eagerly asks that High School Principals and the Teachers of Industrial Arts send from time to time, as this course is used, suggestions for its improvement.

The State Department of Public Instruction desires to give full credit, with appreciation, to M. P. Moe, State Supervisor of Vocational Education, Helena, for his work in preparing this Course of Study in Industrial Arts.

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ELIZABETH IRELAND,
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COURSE OF STUDY IN INDUSTRIAL ARTS

I. Introduction

This course of study is written primarily for the junior high school, comprising the seventh, eighth, and ninth grades. Suggestions are made for an elective course to be offered to students of the tenth, eleventh, and twelfth grades. If no industrial arts work is offered in the seventh and eighth grades the work suggested for these two years may be combined and offered to the students of the ninth grade and that outlined for the ninth grade may be offered in the tenth grade. The work suggested for an elective group may be offered to the juniors and seniors.

The program outlined is suggestive only and need not be followed rigidly. It is possible to omit some subjects entirely and to make others more extensive. All courses beyond those outlined for the seventh, eighth, and ninth grades should be specialized courses in specific vocational training which has for its aim the preparing of the student for a particular vocation or trade.

In keeping with the ideas centered about the development of the junior high school movement, the objectives and the instructional organization for the industrial arts in the junior high school period are undergoing considerable change. Whether or not a school system has a formally organized junior high school, the commonly accepted educational principles governing the junior high school generally prevail in the organization of instruction included in these grades. The work carried on in the industrial arts is no exception to this general tendency. Changes of fundamental character have taken place in reference to the function, the subject matter included, and the methods of instruction for industrial arts courses. Less often than previously are the ultimate values stated in terms of aims based upon the idea of the transfer of training and the idea of preparation for trade. More often the ultimate aims are stated in terms of function, in accordance with the interest and achievement levels of the pupils, and in harmony with the spirit and the principles underlying the junior high school.

II. Objectives

There is a general agreement that the industrial arts program, for pupils of approximately 12 to 16 years of age chronologically, should include provisions for:

A. Developmental and exploratory experiences in various human activities

B. Experiences on the interest and accomplishment levels of the pupils

C. Individual differences by means of enriched and differentiated curricula and methods of instruction

D. Discovery of interests and aptitudes that will have significance for determining a life interest

With these aims of the junior high school the industrial arts courses correlate most admirably, and when properly organized and conducted are a very important factor in their realization. To be effective for this purpose, however, the work must be more than a formal exercise in joinery and woodturning or a traditional course in furniture making, examples of which are so commonly found in manual training shops throughout the country.

Probably the greatest value of the industrial arts courses is the contributions they make through exploratory and developmental forms of experience toward discovery of interests and aptitudes. These courses have guidance values not only of a positive but also of a negative character. They serve to eliminate from future industrial pursuits pupils who have no interest or aptitude for such work; to select those who have aptitudes; and where there is not already an interest in such work to arouse it. In some instances, such courses function further in that they help boys to choose specific trades which they wish to follow. At the end of the junior high school period they may enter upon training in the trade chosen. The training may be secured through a vocational course in school or through apprenticeship on the job. Some pupils become interested in the technical phases of industrial courses and continue their studies through the technical high school and possibly on through an engineering college.

While the exploratory and guidance values of the industrial arts are of great importance, the other pupil outcomes are not to be overlooked in evaluating the contribution which these courses can make toward the realization of the aims of the junior high school. Of special importance are the abilities which function in connection with the use of industrial products and services. Modern life has become so complex and production so highly specialized that the consumer has little opportunity to learn much about trade operations, materials, and manufacturing processes which would be of value to him in the purchase, use, and care of the many industrial products for which he has need. The buyer or builder of a home is a case in point. He needs to know something of carpentry, masonry, painting, decorating, electricity, plumbing, and heating, with reference to building construction. A knowledge of blue print reading is also important if he is to build a house.

Although abilities to meet these needs cannot be developed fully in the junior high school level, properly organized courses will furnish some basic, fundamental training for such needs. This training is not offered primarily to develop actual skill in the trades represented, but rather to give an understanding and appreciation of values in the final product. Industrial arts courses given over a period of three or four years may not give all the information that the consumer needs, but they will give knowledge of industrial work and will stimulate an interest in it that will serve as a solid foundation on which to build when the need for it arises.

The ability to appreciate the place of industry in modern life is a part of our social adjustment. The contribution of the industrial arts toward this end is accomplished not so much through manipulative processes in the school shop as by directed observation and directed study. Plant visits, industrial films, well-selected reading material, industrial exhibits, talks by industrial men, and the many other types of activities included in a well-rounded exploratory and guidance program will aid the pupil very materially in understanding the important place which industry holds in our social and economic life and the problems which arise in connection with it.

III. The Program

Characteristics of an efficient program in the industrial arts for pupils of junior high school age are:

A. Provision for experience in a variety of fundamental activities characteristic of different trades, such as woodwork, sheet metal work, machine-shop practice, wood-finishing, electricity, printing, and auto-mechanics

B. Provision for activities and types of projects and the organization of instruction so as to realize exploratory and developmental experience values rather than specific trade preparatory values

C. Provision for the selection of projects and maintenance of standards of accomplishment which are in accord with the interest and achievement levels of the age-grade group

D. Provision for some individual work and individual instruction which will be in accord with the individual differences of the pupils

E. Provision for the integration of the shop work with the whole educational program of the pupil including special attention to the correlation of shop work with other school subjects for the purpose of securing maximum results and also for educational guidance

F. Provision for studying and rating pupils relative to mentality, interests, aptitudes, and environmental influences for the purpose of educational and vocational guidance

G. Provision for shop and shop equipment that will adequately serve for the realization of the objectives set up

H. Provision for teachers with special qualifications for the work undertaken

IV. Pupil Outcomes

The following pupil outcomes may be expected from courses conducted in accordance with these standards:

A. Development of industrial intelligence and of an intelligent appreciation of industrial work and its place in society

B. Discovery of special interests and aptitudes that may have a significance for life work

C. Development of elementary, fundamental manipulative ability, and job intelligence with respect to common tools and materials, particularly useful for the performance of the nonspecialized manual-industrial jobs found in connection with home life and leisure-time activities

D. Development of the ability to intelligently select, use, and care for industrial products and services commonly found in the home

In order to be effective for guidance, for the development of industrial intelligence and appreciation, and for the development of intelligent consumers, industrial arts courses must be presented in such a manner as not to lose sight of the purpose for which they are given. In the past such courses have often been taught solely for the purpose of giving skill in the handling of tools or for formal discipline.

V. Organization of Courses

A. Short-unit courses

The short-unit courses may be given in rotation form in regular order, depending upon the needs of the school, and the size and amount of the equipment and teaching force.

The arrangement of courses given below is suggestive only. The informational units may be given once a week, as a separate course; or they may be taught in close relation to the shop units as they appear in the program.

B. Presentation of material

A wider use of the individual instruction sheets in class work would give a little more time for the instructor to give the student individual attention. This does not mean that the instruction sheets should replace the teacher but that they should supplement him in his work.

The guided choice of projects should be resorted to in class work. This would offer some diversion in work done by the students as well as give them projects in which they are interested. This plan would also help develop or stimulate the selection of practical projects.

C. Informational studies

The informational studies should meet the needs of the pupils of different achievement levels, and also correlate as far as possible with the other courses which the pupils are taking. There are many devices used to carry on this work, a few of which are listed.

1. Investigations by students of local industry and occupations
2. Visits by students to factories and shops
3. Use of the movies when possible in explaining work of a particular kind. Example: lumbering, farming, or other vocations.
4. Assembly talks by:
   a. Business men and women
   b. Professional men and women
   c. Educators
   d. Students who have made investigations
   e. Individuals in special occupations
5. Reading in pamphlets, bulletins, newspapers, and magazines
6. Reading and studying biographies of men in the business world
7. Checking bibliographies of good books on vocations
8. Gathering occupational information through the use of outlines, and pamphlets and books on the various subjects.

Vocational guidance in the junior high school should be a matter of developing an interest in useful and desirable occupations rather than the selection of a particular vocation. A study of industrial products, methods of production and distribution, sympathetic observation of local industries, and inquiry concerning industrial practices offer the best means of developing this interest. In addition to guiding him in the choice of an occupation, these studies will help develop the boy's industrial intelligence and make him an intelligent consumer.

VI. The Teacher

Due to the changing conditions which have taken place during recent years, the industrial arts teacher must be well prepared to meet the greater demands being made upon him. The following qualities are suggested:

A. He must be qualified to teach a group of practical activities rather than one special line

B. He must be able to conduct his class on a group or individual basis

C. He must be able to analyze and organize his teaching material in such a form as to provide this individual and group instruction

D. He must be able to offer accurate information and counsel pertaining to the requirements, demands, and conditions, as found in a large number of occupations

E. He must be prepared to use constantly the approved methods of teaching and the best teaching devices

F. He must be prepared to hold the physical equipment of his shop up to a high standard, and to establish an efficient system of records for both the pupils and the physical plant

G. He must be able to correlate his work with the other subjects of the school program. This requires a good general knowledge of all school work.

In order to meet the requirements listed above, a teacher should have the following training:

H. Graduation from a four-year college course

I. A major in the industrial arts field

J. Considerable practical experience in trades, preferably in several trades. This experience might be secured during vacation months.

In addition to the above training it is essential that the industrial arts teacher be a man of high ideals and that he have a sympathetic interest in boys. No other department in the school furnishes a greater opportunity for personal relationship and its consequent influence for good should be correspondingly great.

VII. Suggested Procedures

Among the various plans for industrial arts work in the junior high school grades, the general-shop plan of organization is particularly adapted to the realization of the objectives as they have been outlined, but with proper modification the plan can be used advantageously in the schools of a large city system. The general-shop plan offers special advantages for:

A. Giving experience in a variety of shop activities

B. Unified direction and supervision of all shop activities carried on

C. The opportunity to carry on continuous work on a project involving a number of different shop activities until the project is finally completed

D. The opportunity to carry on at any one time a variety of shop activities among the same group of pupils

E. The assignment of projects in accordance with the interests and the ability of the pupils

F. General developmental experience with respect to the use of tools, machines, and construction materials, rather than for teaching the beginning of one or more trade subjects

G. The realization of exploratory and guidance values

Any program of industrial education, in order to be effective, must be flexible enough to meet a wide variety of local situations. The objectives set up in the foregoing pages may apply almost universally, but the means of realizing them will vary rather widely with the local plan of general school organization as well as with quite a number of other local factors.

The first type of industrial program to be given consideration is one suitable for a school of twelve grades, located in a rural community. Such a school will ordinarily have from 60 to 200 pupils in the six higher grades, usually thought of as the junior and senior high school grades. Since a school of this type is usually too small to have more than one shop teacher and one shop, any industrial program should be built around a single general shop to accommodate both the junior and senior high school pupils. The fact that such a school is in a rural community does not indicate that all or even a large percentage of the boys will become farmers; however, the logical core for school-shop activities in such a community should consist of work related to the jobs about the farm and home. Wherever other shop activities in which the boys are interested can be introduced this should be done, but most of the work should be centered in the activities connected with farm and home mechanics.

The brief outlines of courses of study together with the short lists of projects and equipment given below are not intended as standards to be rigidly followed, but rather as suggestions showing how the work may be organized in a typical rural high school having one shop teacher. Not all the suggestions would likely be carried out in any one school. In each case the course in industrial arts should be developed to meet any outstanding local need or situation. The suggestions are particularly applicable to a school having as a maximum the number of boys indicated and distributed as shown below:

Seventh Grade—one class—meeting twice weekly—20 boys
Eighth Grade—one class—meeting three times weekly—20 boys
Ninth Grade—one class— meeting five times weekly—18 boys
Elective, tenth to twelfth grades—one class—meeting five times weekly—15 to 20 boys

In schools where the sixty-minute class period is used, outside work should be assigned in related work and informational reading. Where the two forty-five minute periods are used all of the work may be covered in the classroom and shop.

By this arrangement the teacher has an equivalent of from fifteen to twenty-one clock hours of class work per week or three classes per day. A larger number of boys could be cared for under this plan by increasing the shop facilities and adding an assistant instructor for full- or part-time work. This would also make it possible to increase the number of shop activities that could be offered at one time.

Should the enrollment be less than that indicated above, the seventh and eighth grades could be combined into one class and the work of the two years alternated. The ninth grade and elective groups could likewise be combined and the work alternated. It would require about one-half of the time of one shop instructor to take care of this program.

If no industrial arts work is taught in the seventh or eighth grades the work suggested could be combined and offered as a two-year course in high school. It would be possible, if the enrollment were small, to combine the ninth and tenth grades and use the alternation plan, as suggested for seventh and eighth grades.

Following is an outline of industrial arts work for the different school years which includes several common school shop activities, namely: woodwork and wood finishing, electricity, sheet metal work, home mechanics, auto-mechanics, and drafting with emphasis placed upon its relation to shop activities.

Seventh Grade

Introductory mechanics—Thirty-six weeks, 72-108 clock hours

Eighth Grade

Woodwork—Twenty-seven to thirty weeks, 90-120 clock hours
Drafting—Six to nine weeks, 18-40 clock hours

Ninth Grade

Electricity (including auto-electricity)—Twelve to eighteen weeks, 60-135 clock hours
Auto-mechanics—Eighteen to twenty-four weeks, 90-180 clock hours

Elective Group

Boys in this group from the tenth, eleventh, and twelfth grades may specialize in any of the following: building work, electricity, drafting, auto-mechanics, and machine and metal shop work. More advanced work in each of these fields may be given. Often arrangements can be made to have the boys of these grades carry on more extensive work by using the elementary boys as helpers.

The work in the different activities will include both new construction projects and repair jobs, together with some assembly work, especially in connection with the replacement of parts in repair jobs. Most of the jobs for the farm and home will be done in the school shop. A few are of such a nature that the work can be done only at the place where the project will be used when completed. This is particularly true of building projects and building-repair jobs which are in the nature of permanent improvements to real estate.

Most of the projects listed in the course will be constructed entirely by the students. A few will call for the use of parts that will be purchased and assembled into the completed project. The projects selected by the teacher may include a number of industrial products on which only certain operations will be performed, such as sanding and painting and other forms of wood finishing, installing hardware, boring and reaming. The amount of work to be undertaken in the completion of any industrial product will be determined by its educational value, the ability of the student to perform the operations, and the facilities of the shop for doing the work.

The projects listed in this course include work suitable for the different school years, arranged to some extent in an instructional order. They have been classified roughly into levels, according to their relative degrees of difficulty. Level 1 includes projects having the least degree of difficulty and suitable for beginning students. Levels 2 and 3, when given, are for students who have had some previous work.

VIII. Outline of Study

Introductory Mechanics

A. General statement

The term "introductory mechanics" is used rather than "household mechanics" or "home mechanics," since the course aims to cover a broader field than that usually included in such courses. It may be possible that a few individuals will not succeed in covering more than the amount usually covered in these courses but many boys will be able to carry out many more projects than are usually found outlined in such courses.

The course aims to open up the field of mechanics to the adolescent boy. This is a period, in the boy's life, of transition from childhood to youth. It is a period of unrest, of protest against restraint, and of changing ideals and purposes. Boy interests are in experiences rather than in the influences which these experiences have upon life, in results rather than in processes; and these interests center largely in the home and play life of the boy. Knowledge to the boy is worth while in the proportion that it contributes to his immediate plans or needs, and these may be widely diversified and little concerned with sequence or method. To him, emphasis is upon the objective—the need or result, rather than upon the process—the doing or making.

The course suggested is based upon certain considerations that seem fundamental, namely:

1. That the physical development and mental attitude of the boy at this period of school life are vital
2. That the actual experiences in living are more important at this period of child life than preparation for later living
3. That the school and home should cooperate in the utilization of the boy's interests
4. That the particular knowledge needed by the boy is worth while
5. That the course should deal with a diversified subject matter rather than with a specific one

B. Aims

1. To introduce the fundamentals of a number of industrial occupations
2. To train the pupil to plan and execute necessary repairs and necessary or desirable simple constructions
3. To develop self-reliance, confidence, and initiative in emergencies
4. To develop habits of observation and appreciation and a just pride in personal accomplishment
5. To teach habits of thrift and a wholesome respect for the furnishings and appliances of the home, the school, and the community
6. To give opportunity to try out simple processes in a variety of simple industrial activities
7. To give a practical knowledge of simple mechanical devices and of materials of common use
8. To teach the typical uses of common tools
9. To train the pupil to work from verbal and written directions and from drawings
10. To give an insight into a variety of industrial occupations which may discover interests, aptitudes, and skills which, in turn, may be suggestive in guidance
11. To vitalize and motivate the work of the other school studies through proper correlation of home, school, and community activities with fundamental subjects

The most important work of the teacher in the administration of this course of study will be the exact evaluation of these objectives, expressed in terms of a wise choice of subject matter and in skillful teaching. This means focusing attention upon the development of the elements of character rather than upon the material results of the work.

C. Procedure

The aim of the course is to develop in the pupil interest, thought, initiative, self-reliance in emergency, and a certain amount of skill, as well as to impart information concerning industry and materials. Within the limits of time available for the course, the teacher must select from the suggested projects those which are best suited to accomplish the initial purpose. Class conferences and discussions, the assignment of problems for investigation, demonstration individual instruction, the use of instruction sheets, related material, and, where possible, visits to industrial plants, are all means to the desired end. Reports of the work done at home can be secured through written assignments.

D. Content

The work to be covered will be determined largely by home and community conditions and the limitations of the school shop. Following are some suggestions as to projects that may be used:

1. Sharpening edge tools
2. Repairing an extension cord for an electrical appliance
3. Refinishing a piece of furniture
4. Repairing a leaking faucet
5. Repairing the edge of a screw driver
6. Painting any common household article such as a bench, floor, or screen
7. Learning the use and care of paint, varnish, and shellac brushes
8. Soldering or repairing kitchen utensils
9. Properly attaching, hanging, and adjusting window shades
10. Repairing bibbs and cocks
11. Reading the gas, water, and electric meters
12. Replacing leathers in a pump
13. Cleaning sink and drain traps
14. Repairing flushing tank
15. Putting new rope on window weights
16. Putting up curtain rods
17. Adjusting door to swing freely
18. Patching a hole in a plastered wall
19. Locating studdings in plastered walls before placing hooks or screws
20. Adjusting window stops to prevent window from rattling or sticking
21. Putting weather stripping around a door or window
22. Practice of setting mortise locks
23. Setting a hasp and staple for a padlock
24. Setting a drawer or desk lock
25. Adjusting a desk or table drawer so that it will operate properly
26. Applying kalsomine to wall surface
27. Shutting off water in residence, draining all pipes
28. Removing the water from all drain traps to prevent freezing
29. Putting oil in all drain traps so that the water seal may not be removed by evaporation
30. Attaching a garden hose union to an ordinary garden hose so that the hose may be attached to the sill cock
31. Shutting the water off and draining a range boiler
32. Cleaning and adjusting a burner in a kerosene stove
33. Adjusting the automatic air vent on a steam radiator
34. Replacing the pipe covering on a steam pipe
35. Applying asbestos plaster on a steam boiler
36. Patching asbestos covering on hot air pipes
37. Cleaning and adjusting burners on hot plates or gas ranges
38. Repairing a door lock
39. Glazing a sash, or squaring a corner of a glass and glazing it into a corner of the sash
40. Repairing or properly fitting window or door screen
41. Filing a key for a common door lock
42. Soldering of various materials and projects
43. Drilling and riveting
44. Repairing a shingled roof
45. Repairing lawn mowers, bicycles, and garden implements
46. Drawing and sketching related to the projects

For the boy with exceptional ability, projects in woodworking, electricity, radio, sheet metal, and auto-mechanics can be added to utilize the full time available as well as to furnish something for the boy to do during his leisure hours after school.

E. Time allotment for various projects

Following is a list of operations and units of related knowledge with time allotments for each. This list is suggestive and does not attempt to cover the entire field of projects. The teacher can compare other operations with these and find approximately the amount of time that should be devoted to each project. (The following list is based upon a study made by the Industrial Arts Section of the American Vocational Association.)

1. Operation	Time
Read gas meter	.75 hours
Replace sewing-machine belt	.50
Remove glass from window	.75
Fasten glass with points and putty	1.00
Sharpen kitchen knives	1.00
Repack common faucets: compression, Fuller	1.50
Rewire or make window screen	1.50
Cut window-glass	.50
Learn how to use a mill file	.50
Attach casters and glides	.75
Make concrete project, with wood forms	3.00
Remove paint and varnish	1.00
Tie Boy Scout Tenderfoot knots	1.00
Replace spring in mortise lock	.75
Replace sash cord	1.00
Use corner braces and mending plates	1.00
Use lacquer for home decoration	1.00
Clean out drain trap	.75
Whip a rope	.75
Splice a rope	1.00
Repair flush tank	1.50
Hook up and install radio set	2.00
Cut and thread pipe	1.25
File keys	1.00
Sharpen and adjust lawn mower	2.00
Repair, shellac, and varnish finishes	1.50
Sharpen scissors	.75
Mix concrete and lay piece of sidewalk	2.50
Fit a hammer handle	1.00
Wire a doorbell	1.25
Repair or replace window-shade roller	1.00
Repair simple upholstery	2.50
Use suction plunger	.50
Read water meter	.50
Read electric meter	.50
Repair utensils, solder, rivets	1.25
Mix and apply house paint	1.50
Patch an inner tube	.50
Set up stove and connect for gas	1.50

2. Additional operations suggested

Study stagecraft, construct scenery
Repair simple electrical devices
Tin a soldering copper
Replace or refill burned-out fuse
Make end and tap splices, solder, and tape
Attach a plug socket
Cut and drill holes in metal
Cane and reseat a chair, using commercial seat
Make some project using woodworking tools

3. Units of related knowledge

	Time
How paint and varnish brushes are cleaned	.50 hours
How tools are kept from rusting	.50
Names of different types of water faucet	.50
Names of common locks	.50
How to care for sharpening-stones	.25
Distinguish types of file	.50
How putty is made	.50
Distinguish grades of wire netting	.25
How water pipe is dimensioned	.25
Names of common pipe fittings	.50
How to classify and find the dimensions of files	.50
Mixtures of concrete for various purposes	.50
Kinds of rope and method of dimensioning	.50
How to wash sand and gravel for cement work	.50
Names of parts of a flush tank	.75
Correct names of all tools used	1.00
Kinds and sizes of nails and tacks	.50
How to select paint brushes for jobs	.50

4. Additional units suggested

Set butt hinges
Names and uses of hinges of various types
Patch and shingle roof
Repair electrical fixture cord
Sizes of lumber, and lumber values
Kinds of screws
Conductors and non-conductors of electricity
Kinds of wood used in and around the home
How to care for heating system in the home
The electromagnet and its applications

F. Equipment

Although the equipment needed for this course depends somewhat upon the projects selected, nevertheless it should include the most common tools used in wood, electrical, and auto shops. Consequently, it will not be necessary to secure additional equipment, for tools already supplied for the advanced courses may be used. If sheet metal work is to be included, the following equipment, costing about thirty-five dollars, will be sufficient:

1. Equipment for four boys at one time

One gas plate for soldering furnace
Two straight blade snips
One ten-inch bastard, single-cut file
One pair ten-inch dividers
Two punches—make in shop
Two scribers—make in shop
One cold chisel
Two riveting hammers
One burring machine
One pair of pliers
Two hand groovers
One rivet set
Two soldering coppers with handles or electric soldering irons
One bench—make in shop
Two clamps
Stakes, including beakhorn and hollow mandrel

G. Bibliography

Tustison, Job Sheets in Home Mechanics. Bruce Publishing Company, Milwaukee
Bedell, Household Mechanics Job Sheets. Manual Arts Press, Peoria, Illinois
Keene, Mechanics of the Household. McGraw-Hill Book Company, Inc., New York
Robb and Behrends, Farm Mechanics. John Wiley and Sons, Inc., New York
Wood and Smith, Prevocational and Industrial Arts. Atkinson, Mentzer and Company, New York
King, Inside Finishing. American Book Company, Chicago
Roehl, Farmer's Shop Book. Bruce Publishing Company, Milwaukee

Books and magazines furnished for other industrial arts courses will supplement the above list.

The Woodworking Course

A. General statement

The aims, purposes, or objectives for teaching woodwork during the past fifty years have been numerous, but the vocational and disciplinary aims have predominated. Because of changing conditions our aims must change. It is possible that in years to come our present aims will be replaced by others, which will better serve the purposes of a still further changed society.

B. Aims

1. To train the student to become an intelligent consumer of goods made partially or wholly from wood
4. To furnish a hobby that will assist one in the wholesome utiliza-fields of woodworking
3. To assist the student in the selection of a vocation or trade
4. To furnish a hobby that will assist one in the wholesale utilization of leisure time
5. To train the student to be able to do the odd repair jobs around the home
6. To assist the teachers in vitalizing the work of the other subjects in the curriculum

C. Procedure

1. General statement

If the larger objectives which have been set up are accomplished, the woodworking course is a success. These larger objectives should be arrived at chiefly through specific skills, techniques, knowledges, appreciations, and attitudes which the boy has acquired because of his experiences in the shop.

2. Skills

Too much emphasis should not be placed upon the development of skills in the junior high school although in the senior high school specialized courses should strive to develop a high degree of skill. In the past, too much time has been spent on developing skills and there has not been enough emphasis on the development of techniques and knowledges. No list of skills will serve equally the pupils in all communities. Each teacher must use discretion in developing in his pupils those skills which will, in all probability, be of greatest utility to those in the community in which he teaches.

3. Technique

Technique deals with the manner of performance and method of execution. An individual using poor technique might turn out a good product. Correct technique makes for speed, for endurance under stress, and for grace of performance and, therefore, must be emphasized in all shop activities. The teacher must not grade the boy by looking at the finished product only. He must observe the worker at his job.

4. Knowledge

Knowledge which makes for intelligent action in handling materials, tools, and machines is of real value. It would be of little use to the average American boy to memorize the Latin names of all the native woods of America, but it is of real value to him to know that quarter-sawed lumber shrinks and warps less than plain-sawed lumber.

5. Appreciations

To teach appreciations is largely a process of teaching people how to measure values accurately. A person might pay a thousand dollars too much for a dwelling because he does not realize the difference in value between oak, maple, and fir floors, or because he does not know the difference between a well-constructed and poorly-constructed house. A piece of furniture purchased as genuine black walnut by the untrained buyer might be classified as gumwood by the boy trained in woodworking.

6. Attitudes

Without proper attitudes all the skills. techniques, and knowledges which the boy may acquire in schools are of negative value to society. Although it is difficult to teach attitudes directly, a good teacher will strive each day to build up attitudes for his pupils which will strengthen the social structure of which each of us forms a part.

D. Attainments

1. Skills

a. To be able to show amateur skill in the use of tools commonly found about the home
b. To be able to read blue prints, plans, and graphs, such as are found in the popular magazines, newspapers and publications
c. To be able to use glue, screws, nails, hinges, and the like in the most effective manner
d. To be able to repair furniture and do ordinary upkeep jobs around the home
e. To be able to make a few of the common joints used in wood construction
f. To be able to sharpen tools with an average degree of skill
g. To be able to select and to use effectively the various kinds of wood finishes

2. Techniques

a. Correct order of procedure in squaring stock
b. Correct ways of holding stock in the vise and on the bench while working
c. Correct methods of sharpening common tools
d. Correct procedure in assembling projects
e. Correct procedure in laying out projects
f. Correct handling of wood to avoid warping and checking
g. Correct methods of using the most common tools and materials found about the home

3. Knowledge

- a. A knowledge of the characteristics of a few of the most commonly used woods in the United States
- b. A knowledge of the names of the most commonly used tools and materials used in connection with woodworking
- c. A knowledge of employment conditions in woodworking establishments and the methods of commercial manufacture
- d. A knowledge of how lumber is manufactured
- e. A knowledge of how to take care of wood products so as to realize the most service from them
- f. A knowledge of how to take care of woodworking tools so as to keep them always ready for use
- g. A knowledge of the importance of wood in American life and the importance of the conservation of the forests so that we may have wood for future generations

4. Appreciations

- a. The ability to measure value in furniture and the commonly used products made of wood
- b. The ability to measure value in houses, barns, and other commonly used buildings made of wood
- c. The ability to measure value in woodworking tools
- d. The ability to measure value of work done by a worker in wood
- e. The ability to measure value in materials or supplies used in connection with woodworking
- f. The ability to measure artistic design in wood products where aesthetic qualities are desired
- g. The ability to measure values in drawings, blue prints, graphs, and articles dealing with wood

5. Attitudes

- a. A desire to cooperate with others in accomplishing tasks which are of value to the group
- b. A desire and willingness to conform to group conventions
- c. A desire to search for truth
- d. A desire to be an asset to the social order

E. Content

Following are some suggested projects for woodworking on three accomplishment levels. Other projects may be added to, or substituted for, those listed. (Projects should be painted or varnished where possible.)

1. Shop projects

- a. Level 1
  - Hog trough
  - Chicken feeder
  - Vegetable crate
  - Ladder
  - Stepladder
  - Teeter board
  - Bird houses
  - Vine trellis
  - Lawn bench
  - Wagon jack
  - Rabbit trap
  - Chicken coop
  - Flower boxes
- b. Level 2
  - Push cart
  - Pushmobile
  - Wheelbarrow
  - Dog house
  - Farm gate
  - Board walk
  - Board or picket fence
  - Forms for concrete work
  - Farm sled
  - Auto creeper
  - Lawn chair
  - Hog house
  - Chicken brooder
  - Seed-corn tester
  - Siding building
  - Flooring building
  - Lathing building
  - Shingling building

c. Level 3—Intermediate carpentry and building
Frame garage and other similar buildings; cement floors (brick or block foundation); painting; wiring for lights; and cement walks.

2. **Related drafting for woodwork**

a. Level 1
Principles of orthographic projection. Three-view drawings, pencil drawings of simple projects, such as hog trough, lawn bench. Blue print reading from drawings of projects to be constructed. Most of the jobs should be from blue prints and pupils should learn to work from them. Some time should be spent in giving instruction in the interpretation of blue prints. Free-hand sketches should be made of some of the projects to be constructed.

b. Level 2
Continuation of Level 1 with more advanced work

c. Level 3
Continuation of Levels 1 and 2 with more advanced work. Plans for garage and other buildings should be drawn in class before such buildings are constructed.

F. Time allotment for various operations

Below is a list of suggested operations and units of related knowledge with approximate time allotments for each operation:

1. **Operation**	Time
Sharpen plane iron and other cutting tools	1.50 hours
Set up and operate jack plane, etc	2.00
Set and use marking gauge	.25
Square up board, "Rules for Planing"	3.00
Set and use coping saw	.50
Use sandpaper correctly	.50
Use hammer, drive and pull nails	.50
Bore for screws, and drive with screw driver	.50
Apply stain, shellac, paint, wax	1.25
Set and use the T-bevel	1.50
Test with try-square	.50
Use crosscut saw: general and in miter box	.50
Use rip saw: general, in vise, on horse	.50
Use buck saw for fine cutting	.50
Use auger bit properly	.50
Use chisel, paring, curved and straight surface	.50
Make structure with curved edge	1.00
Use knife for marking across grain	.50
Adjust handscrews	.50
Construct butt joint, miter joint, dado joint	2.50
Make a glued-edge joint, as in a table top	1.25
Construct and use gauge for boring to depth	.50
Fit a small door, attach hinges, lock	3.00
Use nail set for setting nails	.25
Use rule for accurate measuring on wood	.50
Make and use wooden miter box	2.00

2. **Additional operations suggested**

Set up and operate planer, circular saw, joiner, band saw, mortiser, tenoner, sander, grinder
Sharpen wood-turning tools
Wood-turning operations in lathe
File and set crosscut saw and rip saw
Sharpen auger bit

Cut with gauge
Apply finish on wood-turning projects
Use bench hook
Make cross-lap joint, dowel-butt joint
Make free-hand sketch and working drawing, with dimensions
Make out stock bill and figure costs of materials
Plan and construct some article of cabinet work
Prepare flake glue for use
Saw to line
Plane to line
Chisel to line
Use free-hand pencil gauge
Whittling and shaping with knife
Finish flat and curved surfaces with scraper
Make and use template
Lay out and make chamfer
Use special planes: rabbet, groove, head, tongue and groove, matching, routing
Sharpen marking-gauge point, cabinet scraper

3. Units of related knowledge	Time
How to read a rule to and including 16th"	.50 hours
How lumber is made from logs	.50
Names of 15 woodworking tools	1.00
How auger bits are dimensioned	.25
Names of joints: butt, half-lap, dovetail, mortise and tenon	.50
Sizes and kinds of nails and brads	.50
How to specify kinds and sizes of screws	.50
Grades and uses of sandpaper	.50
Reasons for painting and finishing wood	.50
Common wood fasteners	.50
Read simple working drawings	2.00
Types of glue suitable for different uses	.50
Causes of changes of shape in wood	.50
Differences in size, rough and dressed lumber	.50
Principles of locating hinges and locks	.50
Costs of different woods in community	.50
How varnish is applied and rubbed	.75
Wages paid in field of woodworking	.50
Types of wood suitable for various uses	.75
Uses of dowels in joinery	.25
Raw materials used in manufacture of finishes	.75
Use of steel wool in wood finishing	.25
Scope of activity of carpenter	.50
Scope of activity of cabinet maker	.50
Grades of lumber commonly used	.50
Difference between crosscut saw and rip saw	.50
Names of common hardware used	.75
How saws are filed	.50
How to judge quality in woodworking tools	.50
How woodworking machines operate	1.50
Relative strength of woods	.75
Names of building materials	1.00
Names of principal members, interior trim	.75
How to test wood for proper dryness	.50
How to make out a stock bill for project	.50
How to order lumber from yard or mill	.50
How to keep tools free from rust	.25
Costs of common woods	.50

4. **Additional units suggested**
   - Study of design and symmetry
   - How gimlet bits, twist drills, are dimensioned
   - Lay out and cut mortise and tenon joint
   - Occupational information
   - Proper care of woodworking machines
   - How to compute board measure
   - How to prepare hot glue
   - How to care for brushes
   - How to brace a frame or other structure
   - Use jigs for repeated operations

The above suggestions are based upon a study made by the Industrial Arts Section of the American Vocational Association.

G. Equipment

The list below is suggestive only. Many schools may wish to include several other items; some may wish to substitute for some of the items listed. The important thing is to secure adequate tools for the carrying out of the projects selected for the course.

1. **Woodworking equipment**
   - Ten 22- to 26-inch saws as follows: five ten-point crosscut, three eight-point crosscut, two six-point rip saws
   - One fourteen-inch keyhole saw
   - One coping saw
   - Six steel squares
   - One eighteen-inch foreplane
   - Two fourteen-inch jack planes
   - Two nine-inch smooth planes
   - Two seven-inch block planes
   - One eight-inch draw knife
   - Twenty wood chisels (four each 1¼, 1, ¾, ½; one each ⅝, ⅜, ¼, ⅛ inch)
   - Two cold chisels
   - Two ratchet braces
   - Two butt gauges
   - One set auger bits ($\frac{1}{16}$ to 1 inch, 13 in number)
   - One saw set
   - Two saw vises
   - Two small files
   - Six assorted screw drivers
   - Two marking gauges
   - One butt gauge
   - One glass cutter
   - Two putty knives
   - Ten claw hammers
   - One shingling hatchet
   - Two four-inch hatchets
   - Six nail sets
   - One carborundum stone
   - One oil can
   - Eight six-inch try squares
   - Two six-inch dividers
   - Two T-bevels
   - One fifty-foot steel tape
   - Ten six-foot folding rules
   - One spoke shave
   - Four wood clamps

Two pairs iron beam clamps (four feet)
One or two wrecking bars
Four chalk lines
One dozen cakes carpenter's chalk
One monkey wrench
One pair tin snips
One or two levels
Paint, kalsomine, and varnish brushes
Glue pot
Make in shop: one carpenter's bench, two six-foot straightedges, and three pairs sawhorses

2. **Drafting equipment**

Twelve sets drawing instruments
Twelve T-squares (18-inch)
Twelve scales (graduated)
Twelve 30°-60° triangles
Twelve 45° triangles
Make in shop: twelve 18x24-inch drafting boards
Blue print equipment:
  Printing frame
  Blue print paper
  Tracing paper and cloth
  Make washing tray in shop

The total cost of this equipment will be about one hundred dollars, estimating each set of drawing instruments at six dollars. Sometimes the drawing instruments are rented to students at about fifty cents per year. Again, the students are required to purchase their own drawing instruments.

Some of the tools and equipment listed for the above activities may be made in the shop. Many additional tools also can be made, so that in a short time a good supply will be available. Sometimes some of this equipment can be bought second-handed.

In many cases rooms will have to be utilized which were originally designed for entirely different purposes. Under such circumstances the arrangement, as well as the choice of equipment, will have to be determined largely by the possibilities of the shop space available. It is advisable in some instances to have the advanced class build a shop. This makes a good carpentry project which also involves cement and brick work, wiring, and painting.

H. Bibliography

A room adjacent to the shop or a space in the shop should be provided for a library for books and magazines dealing with the various phases of the shop activities. It is important that this material be always available. Following is a list of books that should be of value to both the teacher and the pupil:

Adams, Projects in Furniture Making. Bruce Publishing Company, Milwaukee
Bast, Essentials of Upholstery. Bruce Publishing Company, Milwaukee
Baxter, Boy Bird House Architecture, Bruce Publishing Company, Milwaukee
Bedell, Household Mechanics. Manual Arts Press, Peoria, Illinois
Bill of Material Pads. Manual Arts Press. Peoria, Illinois
Blackburn, Boy Activity Projects. Manual Arts Press, Peoria, Illinois
Brown and Tustison, Job Sheets in Practical Woodwork. Bruce Publishing Company, Milwaukee
Brown and Tustison, Instructional Units in Handwork. Bruce Publishing Company, Milwaukee
Bryant, Furniture Projects. Manual Arts Press, Peoria, Illinois
Bulletins on woods, etc., published by:
  Southern Cypress Manufacturing Association, Jacksonville, Florida
  California Redwood Association, 24 California Street, San Francisco

  - Hardwood Manufacturers' Institute, Memphis, Tennessee
  - Western Pine Manufacturers' Association, Portland, Oregon
  - California White Pine Manufacturers' Association, 600 Call Building, San Francisco

Califf, Permanent Bird Houses. Bruce Publishing Company, Milwaukee
Charts on Tools and Joinery. Stanley Rule and Bevel Plant, New Britain, Connecticut
Crawshaw, Problems in Furniture Making. Manual Arts Press, Peoria, Illinois
De Vette, One Hundred Problems in Woodworking. Bruce Publishing Company, Milwaukee
Furniture catalogues
Greene, Workshop Notebooks. Manual Arts Press, Peoria, Illinois
Griffith, Essentials of Woodwork. Manual Arts Press, Peoria, Illinois
Griffith, Correlated Courses in Woodworking and Mechanical Drawing. Manual Arts Press, Peoria, Illinois
Griffith, Woodwork for Secondary Schools. Manual Arts Press, Peoria, Illinois
Griffith, Carpentry. Manual Arts Press. Peoria, Illinois
Hardware and supply catalogues
Hjorth, Principles of Woodworking. Bruce Publishing Company, Milwaukee
How to Work with Wood and Tools. Stanley Rule and Level Plant, New Britain, Connecticut
Industrial Arts and Vocational Education Magazine. Bruce Publishing Company, Milwaukee
Industrial Education Magazine. Manual Arts Press, Peoria, Illinois
Jeffrey, Wood Finishing. Manual Arts Press, Peoria, Illinois
Johnson, Furniture Upholstery. Manual Arts Press, Peoria, Illinois
Klenke, Joints and How They are Made. Manual Arts Press, Peoria, Illinois
La Voy, Problems and Projects in Industrial Arts. Manual Arts Press, Peoria, Illinois
Madsen and Lukowitz, Problems in Furniture Design and Construction. Bruce Publishing Company, Milwaukee
McGee and Brown, Instructional Units in Wood Finishing. Bruce Publishing Company, Milwaukee
Murray, Problems in Woodworking. Manual Arts Press, Peoria, Illinois
Newell, Wood and Lumber. Manual Arts Press, Peoria, Illinois
Noyes, Design and Construction in Wood. Manual Arts Press, Peoria, Illinois
Noyes, Handwork in Wood. Manual Arts Press, Peoria, Illinois
Noyes, Wood and Forest. Manual Arts Press, Peoria, Illinois
Perry, Seat Weaving. Manual Arts Press, Peoria, Illinois
Ricciardi-Kibby Readings in Vocational Education. The Century Company, New York
Roehl, Farm Woodwork. Bruce Publishing Company, Milwaukee
Siepert, Bird Houses Boys Can Build. Manual Arts Press, Peoria, Illinois
Van Dusen, Demonstrations in Woodwork. Manual Arts Press, Peoria, Illinois
Varnum, Industrial Arts Design. Manual Arts Press, Peoria, Illinois
Wheeler, A Manual of Woodworking. G. P. Putnam's Sons, New York
Wilson and Rogers, Carpentry Mathematics. McGraw-Hill Book Company, New York
Wise, Elementary Woodworking Projects. Manual Arts Press, Peoria, Illinois
Woolley, A Guide to Woodworking Projects. Manual Arts Press, Peoria, Illinois
Woolley, Guide to Study of Woodworking. Manual Arts Press, Peoria, Illinois
Worst, More Problems in Woodwork. Bruce Publishing Company, Milwaukee
Yates-American Instructor. Yates-American Machine Company, Beloit, Wis.
Zipprich, Freehand Drafting. D. Van Nostrand Company, New York

Elementary Electricity

A. General statement

During the last quarter of a century, the applications of electricity in doing the work of the world have increased by leaps and bounds. Electricity is used everywhere. It is found on many farms as well as in the cities. Today the farm has the telephone, the radio, automobile, tractor, stationary gas engine, and, in many instances, electric lights and household appliances. City homes have all sorts of electrical appliances that we shall not use space to enumerate here.

In the shop we find most of the machines operated by electric power or by machines having some electrical attachments. The growing boy's curiosity is aroused in regard to this hidden power and he becomes eager to conquer its mysteries and to make it obey his will.

B. Aims

The aims, purposes, or objectives of this course are to furnish the boy an opportunity to:

1. Become an intelligent consumer of electrical goods
2. Explore the fields of electrical work
3. Assist in the selection of a vocation or trade
4. Acquire a hobby that will assist him in the wholesome utilization of leisure time
5. Learn to do the odd repair jobs around the home, farm, or shop
6. Vitalize the work of the other school subjects

C. Procedure

In the electrical shop it is necessary that the student learn, not only the use of the common electrician's tools, but also the underlying principles or theory of electricity. The electrician's skill is made up of an inseparable combination of mechanical skill and the knowledge of fundamental electrical principles.

The student who constructs a bell-ringing transformer must operate it to see that it functions properly. If he is normally inquisitive, he will want to know why it works as it does.

The projects offered are designed to teach fundamentals and their common application. They should pave the way for general discussions of the application of these principles to the radio, the telephone, and to industry in general. As a result this course should open new channels of thought which have never been suggested in many of our schools.

D. Attainments

Assuming that the course has been taught effectively, the student at the end of the course should be able to:

1. Recognize, and measure with a gauge the common wire sizes, and to know the various kinds of insulation
2. Tin the soldering copper for use, and splice, solder, and tape joints
3. Test and replace fuses
4. Set up combinations of battery cells in a series or in a parallel
5. Understand the construction of the electric bell, buzzer, and bell-ringing transformer and to connect up the several common bell circuits
6. Recognize the inter-relationship of electric current and magnetism
7. Read meters and figure light bills
8. Understand the construction and action of the telephone receiver
9. Understand the principle, the charging, the testing, and the maintenance of the common lead storage battery
10. Understand and make use of the heating effect of resistance wire
11. Connect up light sockets, wire lamps, and connect and wire other household articles
12. Understand housewiring circuits
13. Connect up radio sets
14. Understand and wire the complete electrical system of an automobile

E. Content

1. Shop projects

- a. Level 1
  - (1) Wire simple bell system on board with:
    - (a) One push-button and one bell
    - (b) One push-button and two bells
  - (2) Wire simple light system with:
    - (a) One light bulb
    - (b) Two bulbs in parallel
    - (c) Two bulbs in series
    - (d) Bulb and switch
    - (e) Bulb and three-way switch arrangement
    - (f) Buzzer and bell system
  - (3) Auto electricity:
    - (a) Wire up auto lighting circuit
    - (b) Wire up auto ignition system
    - (c) Wire up starter-generator system
  - (d) Wire up complete electrical system
- b. Level 2
  - (1) House wiring:
    - (a) Wire garage for lights—three-way switch
  - (2) Auto electricity:
    - (a) Overhaul electrical system of car, find trouble and make repairs
  - (3) Motors:
    - (a) Experimental study of electrical motors
    - (b) Repair jobs on electric motors such as are used on vacuum cleaners and washing machines
    - (c) Other electrical repair jobs, such as repairing electric iron and toaster

(All electrical work should be accompanied by discussion and carefully selected readings on the principles of electricity involved.)

2. Related drafting

Related drafting should consist of making and reading wiring diagrams. In some rural communities where the use of electricity is not common, this part of the course may well be omitted and more time devoted to other work.

F. Time allotment for various operations and units of related knowledge

(The following suggestions are based upon a study made by the Industrial Arts Section of the American Vocational Association.)

1. **Operation**	Time
Connect set of dry cells in parallel	.50 hours
Connect set of dry cells in series	.50
Construct an electro-magnet	1.00
Make common wire splices	1.00
Solder and tape splices	.75
Construct simple bell circuit	.75
Same, one button, two bells in parallel	.75
Construct an extension cord, 110-V.	.50
Connect socket and bulb	.25
Circuit, 1 button, 2 bells, in series	1.00
Circuit, 1 bell, two buttons	.50

Detect and remove trouble in bell circuit	.50
Assemble electric appliances	.50
Circuit, 2 buttons, bell, buzzer	.75
Construct return-call system	.75
Test, find, and replace fuses	.50
Wire miniature battery lamps	1.50
Connect feed-through switch	.50
Connect transformer in 110-V line	.75
Lighting circuit, lamps in parallel	1.00
Same, in series	1.00
Construct and install a dropcord	.75
Construct a simple buzzer	1.75
Construct a simple telegraph system	1.25
Construct simple make-and-break switch	1.00
Connect through combination fuse and switch	1.00
Install flush switch	1.00
Install flush receptacle	1.00
Install snap switch	1.00
Construct simple electric motor	5.00
Circuit, 2 or 3 lamps, independent	1.00
Use loom in running house wiring	1.00
Run wire using proper tubes and knobs	1.00
Read and care for meters	1.75
Study of electrical equipment	2.00

2. Additional operations suggested

Install electric doorlock
Install simple telephone hook-up
Construct simple radio receiving set
Wire a lamp with two or more sockets
Charge and care for storage battery
A button in each of two rooms operating bell in third room
Same, operating bells in two other rooms at same time
Return-call system, two rooms, three wires
Same, using two wires
Wire a duplex
Hook up an annunciator in the nurse's room
Rejuvenate a dry cell
Repair an electric toy
Shape, clean, and tin a soldering copper
Construct tester for plug fuses
Construct extension cord for automobile
Wire bridge lamp or table lamp
Make button, buzzer, and 4-drop annunciator
Operations in connection with gas engines

3. Units of related knowledge	Time
Sources of electrical current	1.00 hours
Conductors and non-conductors	.75
Principles of connecting dry cells	.75
Why splices should be soldered	.25
Structure of a push-button	.25
Structure of an electric bell	.50
Cause and effect of short-circuit	.75
Use of extension cords	.50
Use of socket and plug	.50
Use of fuse	.50
Dangers of electricity	.75
How to avoid dangers	.75
Uses of household appliances	.75

How to read electric meter	.75
General nature of electricity	.75
Principles of electro-magnetism	.75
Uses of common splices	.50
Structure of a dry cell	.75
Simple and compound bell circuits	.50
Sources of current for bells	.50
Transformer in 110-V line	.75
Uses of switches	.25
Effects of electricity	1.00
Rules of bell wiring	.50
Principles of the electric motor	1.00
How to figure costs	.50
Principles of incandescent lamp	.50
House-wiring insulation	.50
Tubes, knobs, and loom	.75
Uses of motors in industry	.75
Uses of storage batteries	.75
Care of storage batteries	.75
Ohm's law and its applications	1.00
Facts regarding static electricity	.75
Selecting electric appliances	1.00

4. **Additional units suggested**

Characteristics of electrical materials
Uses of electrical supply-house catalogs
Study of the N. E. C.
Fundamentals of radio
Fundamentals of telephony
Fundamentals of telegraphy
Future of electricity
Units of power and the power equation
Types of current
Induction as applied in spark coil and transformer
A-C and D-C generators and motors
Grounded circuit, bell and telegraph
Construction of an electric bell
Telephone and telegraph apparatus
Types of fuses, location, renewal
Types of lamps, servicing
Types and construction of primary batteries
Care and use of soldering copper and flux

G. Electrical equipment

The length of the course and kinds of projects taken up will determine to a great extent what equipment should be found in the shop. The following list of equipment, which should not exceed $100 in cost, is suggestive only and may be altered to meet the needs of each particular shop

1. **Equipment for five boys at one time:**

Five wiring boards, each equipped with two light sockets
Two bells
Two push-buttons
One two-way switch
Two three-way switches
One knife switch
One 25-watt bulb
One 60-watt bulb
Two 150-watt bulbs

Assortment of wire—Nos. 14, 18, 32 (including cotton covered and twin pair)
Two snips
Two eight-inch screw drivers (wood handles)
Four six-inch pliers (including side-cutting and square-nose types)
Two six-inch screw drivers (wood handles)
Two two-inch screw drivers (wood handles)
One claw hammer, ten ounces
One two-foot rule (twenty-four inch straight rule)
One voltmeter
One tungar rectifier
Two small transformers
Twelve auto light bulbs
Four sockets for eight bulbs
Five buzzers
Soldering equipment
Several Christmas tree lights
Friction and rubber tape
Coils, starters, generators, ammeters, and other parts of auto system can be secured from junk cars

H. Bibliography

The library for the electrical course should be conveniently located either in a room adjoining the shop or in bookcases in the shop. Following are a few suggestions for job sheets, texts, and reference material:

An Electrical Wiring Specification. Bryant Electric Company, Chicago
Baxter, Electro-Craft. Bruce Publishing Company, Milwaukee
Burling, Preparatory Electricity. Bruce Publishing Company, Milwaukee
Burling, Automotive Electricity Parts. Bruce Publishing Company, Milwaukee
Burling, Elementary Electric Wiring. Bruce Publishing Company, Milwaukee
Burling, Battery Testing and Repair. Bruce Publishing Company, Milwaukee
Cook, Interior Wiring. John Wiley and Sons, Inc., New York
Consoliver Automotive Electricity. McGraw-Hill Book Company, New York
Electric Wires and Cable. American Steel and Wire Company, 208 South LaSalle Street, Chicago
Craft, Automobile Wiring Diagrams. McGraw-Hill Book Company, New York
High school physics texts
Home of Ideas. Bryant Electric Company. Chicago
Industry's Electrical Progress. Cutler-Hammer Manufacturing Company, 1266 St. Paul Avenue, Milwaukee
Kuns, Automotive Electrical Practice. Bruce Publishing Company, Milwaukee
National Electrical Code. Board of Fire Underwriters, Underwriters Laboratories, 207 East Ohio Street, Chicago
Manley, Auto and Radio Battery Care and Repair. Frederick J. Drake and Company, Inc., Chicago
McGee and Sturtevant, General Mechanical Drawing. Bruce Publishing Company, Milwaukee
Perry and Buck, Practical Problems in Electrical Construction. Bruce Publishing Company, Milwaukee
Standard Wiring Symbols for Buildings. Bryant Electric Company, Chicago
Stone, Electricity and Its Application to Automotive Vehicles. D. Van Nostrand Company, New York
Tustison, Home Mechanics, Job Sheet No. 33. Bruce Publishing Company, Milwaukee
Tustison, Job Sheets for the Practical Electrical Shop. Bruce Publishing Company, Milwaukee
Varner and Smith, Laboratory Manual for Automotive Electricity. John Wiley and Sons., Inc., New York
Weber, Job Instruction Sheets on Practical Electricity. John Wiley and Sons, Inc., New York
Willoughby, House Wiring. Manual Arts Press, Peoria Illinois
Willoughby, Automotive Electricity. Manual Arts Press, Peoria, Illinois
Willoughby, Lesson Sheets in Elementary Electricity. Manual Arts Press, Peoria, Illinois
Willoughby, Essentials of Electrical Work. Manual Arts Press, Peoria, Illinois
Willoughby, Fundamentals of House Wiring. Manual Arts Press, Peoria, Illinois
Willoughby, Practical Electricity for Beginners. Manual Arts Press, Peoria, Illinois
Willoughby, Elementary Electricity. Manual Arts Press, Peoria, Illinois
Willoughby, Problems in Electrical Work. Manual Arts Press, Peoria, Illinois

Automotive Mechanics

A. General statement

With more than twenty-five million automobiles on the public highways of the United States; with our annual bill for automobiles replacement and upkeep totaling several times that of our expenditures for all types of education; with our highway program costing annually more than the total expenditures for public education; with the annual toll of deaths caused by motor traffic approximating that of the number of our soldiers killed during the World War, there should be no great difficulty in justifying an auto-mechanics course as a matter of general education in our high schools. There is probably no one item of modern civilization of which we are more keenly aware and which affects our lives more conspicuously from both a vocational and an avocational standpoint than the automobile. There is certainly no single machine in everyday use that contains as many elements of scientific development and interest as does the motor car, and it is self-evident that in a well-rounded education, a study of this scientific marvel deserves a definite place. The use and abuse of the automobile, its construction, cost of maintenance, a study of the traffic laws and regulations, are all matters of general interest affecting the lives of all of us.

B. Aims

1. To become acquainted with ordinary maintenance care of an automobile or a gas engine
2. To become acquainted with occupational demands in the automotive industry
3. To discover possible aptitudes for automotive work
4. To secure information that will help the individual to operate intelligently and maintain an automobile
5. To secure information as to the social and economic importance of the automobile and the automotive industry

C. Procedure

It is suggested that whenever and wherever possible, the work of this course be closely correlated with the science and mathematics courses of the high school. If this is done, it will be found that these other course will be greatly benefitted by the transfer of interest from the automotive course. Outside reading should be assigned on traffic rules and regulations, importance of the industry, and other readings on the effect of the automotive industry on our life. Discussions in class should further emphasize the importance of the various phases mentioned above. An accurate expense account of the upkeep of the family car should be kept as well as the mileage. From this information the cost of operation can be secured, which may help to make the boy realize the cost of running a car. Incidentally, greater harmony may exist over the use of the family car.

The instructor should accompany his class on frequent trips through local automotive plants or shops. On these trips, a careful study should be made of the organization of the plant, the buildings and equipment, type of work done, stockrooms and offices.

The boy should have a good auto-mechanic textbook accompanied by job sheets, information sheets, and report sheets designed to call his attention to the different elements of the car and to insure that he will carefully inspect the parts designated, in order to secure the data required on the report sheet.

D. Content

The content of the course will necessarily have to be changed and adjusted to suit the equipment, the time, the room available, and the needs of the individuals in the class. Following is a suggestive outline of projects on the various accomplishment levels:

1. **Shop projects**
   - a. Level 1
     - (1) Farm stationary engines (study of principles of single cylinder gasoline engine)
       - (a) Make-and-break, magneto type
       - (b) Battery type, low tension
       - (c) High-tension jump spark-magneto type and battery type
     - (2) Manipulative work, consisting of overhauling, cleaning, retiming valves and ignition. Carefully selected reference reading, accompanied by class discussion and demonstrations, should be used.
   - b. Level 2
     - (1) Study of automobile and tractor motors
       - (a) Overhaul and reassemble demonstration motors (the test is to make the motor run well)
       - (b) Grind valves
       - (c) Adjust bearings
       - (d) Install new pistons and rings

     (The above may be done as repair jobs when cars are available.)
   - c. Level 3
     - (1) Differential, transmission, and clutch
       - (a) Install new ring gear
       - (b) Install new gear in transmission
       - (c) Install new clutch plates
     - (2) Repairing and overhauling motors

     (The above jobs may be done as repair jobs when cars are available.)

   It should be understood that the purpose of this work is not to train boys to the extent that they may go out as auto repairmen, but to give a general knowledge of the mechanical construction and working principles of the automobile, the tractor, and the farm engine. The boy who wishes to become an auto mechanic should take a specialized course after having had this general foundation training.

2. **Related drafting**
   - a. Blue print reading dealing with automobile parts and assemblies should be given, as well as sketching of auto parts

E. List of operations and time allotment

Suggested list of operations and units of related knowledge with time allotments are given below. This list is suggestive only and does not aim to include all operations or units, but it should be helpful in determining the time to be allotted to perform certain operations or to study a unit of related knowledge. (The following suggestions are based upon a study made by the Industrial Arts Section of the American Vocational Association.)

1. Operation	Time
Adjust tension on fan belt	.50 hours
Remove and replace tire	1.00
Repair puncture with cold patch	.50
Repair puncture with hot patch	.50
Block up a car	.50
Remove front wheel, adjust, replace	1.00
Clean and adjust breaker points	.50
Replace casing with blow-out boot	.50
Wire a car from a chart	3.00
Run motor after finishing work	.50
Adjust brakes	1.50
Dismantle and assemble rear spring	1.50
Remove and replace radiator and fan	2.00
Adjust front wheels, toe-in, alignment	1.25
Remove, grind, replace valves	4.00
Grease a car	1.00
Remove and replace manifold and carburetor	1.50
Adjust valve tappets	2.00
Dismantle and assemble piston assembly	1.00
Dismantle, clean and assemble carburetor	2.00
Remove and replace steering gear	3.00
Dismantle and reassemble an engine	3.00
Remove and replace an engine	5.00
Dismantle and assemble drive shaft	3.00
Remove and replace crank shaft	4.25
Dismantle and assemble rear-end	4.25
Test and clean spark plug	.75
Test and adjust lights	.75
Replace light bulbs	.50
Test and care for battery	.75
Remove sediment from radiator	.75
Change oil in engine	.50
Grease a car completely	1.50
Locate firing order of engine	1.50

2. Additional operations suggested

Stop leak at water pump
Repair tire chain
Tighten body bolts
Install Bendix-drive spring
Study body construction and repair
Measure cylinder with gauge
Align connecting rods
Adjust shackle bolts
Tighten spring clips
Remove and replace engine head
Clean commutator
Solder
Fit rings to piston and cylinder
Dismantle and assemble transmission
Build and repair storage battery
Replace bushing and fittings
Weld auto parts
Repair and refinish fender
Clean screens and gas line

Clean body, plating, enamel
Polish body

3. Units of related knowledge	Time
Function and parts of cooling system	.50 hours
Methods of circulating cooling medium	2.00
Functions of main units of car	1.00
General construction	1.25
Chief parts of front end	.75
Function of differential	.50
Internal and external brakes	.50
Function of transmission	.50
Why universal joint is needed	.50
Necessity for proper inflation	.25
Methods of circulating oil	.50
Safety precautions in driving	.75
Types of wheel	.50
Functions of parts of rear-end	.75
Principles of carburetion	.75
Function of vacuum tank or pump	.50
Focus and alignment of lights	.50
Reasons for multiple engine	.50
How to take up bearing	.75
Meaning of camber, toe-in, etc.	.75
Riding the clutch pedal	.25
Functions of parts of engine	1.50
Reasons for grinding valves	.25
Starting ignition, lighting	.75
Functions of oiling system	.50
What is meant by gear ratio	.50
Types of transmission	.50
Study of construction of a tire	.50
Sleeve valve, tappet valve	.50
How the vacuum tank works	.50
How the breaker and distributor work	.50
The four-cycle principle	.50
Why tappet valves must have clearance	.50
Types of rear axle	.75
Chief causes of accidents	.50
Chief points in purchasing a car	.75
Upkeep of car	1.00
State traffic regulations	1.00

4. Additional units suggested

Road courtesy
Methods of body construction
Kinds of material used in modern car
Sliding-gear transmission
Use and care of storage battery
Current events in automotive world

F. Equipment

Four junk cars for parts which will provide four engines, four differentials, and four transmissions
Two sets of wrenches including both socket and end wrenches
One set ignition wrenches
One chain hoist
Two jacks
One 12-inch monkey wrench
One 18-inch Stillson wrench

One valve grinder
One thickness gauge
One inside micrometer
One six-pound sledge
One 12-inch screw driver
Two 8-inch screw drivers
One 6-inch screw driver
Two valve lifters
One grease-gun outfit

The total cost of this equipment will depend upon how much the junk cars will cost, but should not exceed $100-$150. If funds permit, it would be well to add a lathe. A junior lathe may now be secured for about $150 without a motor, and for $250 and up with a motor.

The junk cars should be disassembled and the parts cleaned. The engines, differentials, and transmissions should be mounted on stands.

G. Bibliography

Emerson and Jones, Auto Repair Practice. The Century Company, New York
Elliott, Automobile Repairing. McGraw-Hill Book Company, New York
Kuns, Automotive Trade Training. Bruce Publishing Company, Milwaukee
Hobbs, Elliott nad Consoliver, The Gasoline Automobile. McGraw-Hill Book Company, New York
Mayer, Gasoline Automobiles. McGraw-Hill Book Company, New York
Moreton and Hatch, Automobile Electric Systems. U. P. C. Book Company, Inc., New York
Moreton and Hatch, Electrical Equipment of the Motor Car. U. P. C. Book Company, Inc., New York
Stone, Electricity and Automotive Vehicles. D. Van Nostrand Company, Inc., 250 Fourth Avenue, New York
Wright, Automotive Repairs. Vols. I, II, III and IV. John Wiley and Sons, New York

TRADE AND INDUSTRIAL EDUCATION UNDER THE SMITH-HUGHES VOCATIONAL EDUCATION ACT

I. The General Problem

Industrial education is a fact. Its presence is due to the complexity of modern life and the competitive conditions under which industry is attempting to meet the needs of society for food, clothing, shelter, and recreation; its existence does not depend upon the attitude of public educational authorities toward the problem, and for them to ignore the facts involved in this situation does not eliminate the problem.

Industrial education should be provided in a particular case by the agency which can carry it on most efficiently. Part of this education and training can probably be given with a high degree of efficiency by industrial organizations themselves, without any sacrifice of certain social values which are involved. Other forms of industrial education would seem to be a legitimate responsibility of the public educational authorities.

It is inconceivable that any public school system would attempt to meet all of the needs for industrial education in all fields. The cost alone of such an attempt would prevent the program from being carried out, were it otherwise possible to carry it through. On the other hand, certain valuable objectives would be sacrificed to a greater or less degree if the entire responsibility for carrying on all forms of industrial education were left to industry itself. Mass production, specialization, the disappearance of recognized trades, and the development of new trades due to new inventions, new processes, new materials, and attendant social and economic changes cause the problems of industrial education to be increasingly complex.

There is a legitimate place for the plant training department, the corporation apprentice school, and the privately endowed trade or vocational school. Private trade schools, operated for profit as business enterprises, usually flourish in proportion as public trade schools fail to render efficient vocational training along specific lines. In many cases the private trade school has pioneered in demonstrating that real needs in trade education exist. Usually after such successful demonstration, public school authorities have eventually become interested in making such service available at public expense.

The principle is now quite generally recognized that the problems of trade and industrial education are likely to be solved efficiently in proportion as legitimate and desirable forms of cooperation are developed between public vocational schools and industry itself. While there is some difference of opinion as to the degree to which a publicly supported program of industrial education should attempt to give specific training for specialized factory jobs of routine type, there seems to be no difference of opinion as to the desirability, from the standpoint of the work and of the public interest, of having good working conditions prevail in such occupations. High wages alone do not necessarily cause employees to be satisfied with their jobs. An efficient method of inducting new workers into industry, supported by efficient supervision by intelligent foremen has a wholesome effect upon the efficiency and mental attitude of persons employed in factories on jobs which would be classed as semi-skilled or of a routine character. In connection with the question of assisting in the establishment and continuous improvement of efficient vocational education in this field, the Federal Board for Vocational Education (Washington, D. C.) has consistently promoted and encouraged the States to incorporate in their plans for trade and industrial education, desirable forms of trade extension work for foremen in industries of all types, and especially in industries in which it seems to be difficult or impossible to serve the employees directly with a program of industrial education which can be carried on as a public school activity.

The feature of part-time education which makes it of great popular interest and of far-reaching social value is its dependence upon cooperation between schoolmen, employers, and employees; that is to say upon cooperation which is in the largest sense social and which embraces the entire population. Part-time education is a community enterprise embracing, directly and indirectly, nearly every phase of community life and welfare. Every element of the wage-earning population may enter into this cooperative enterprise. The only definition given to the scope of the work is that marked out by the needs of the workers themselves either for more schooling in general, or for special vocational training in preparation for entrance into a trade, or for promotion within a trade already entered upon.

These schools provide opportunity for the young worker for continuous improvement, and open up to him the way of continuous advancement in proportion as he acquires new trade skill and efficiency and new capacities for citizenship. They bring the teacher into the shop and the worker into the school. They tend to make education what it should be—a lifelong process of developing new efficiency. The worker does not leave school to enter the shop. He is graduated into the shop, where his wage work becomes a practical basis for continuing his schooling. In the field of part-time instruction clearly lies the great opportunity for school administrators and for employers and labor as initiating agencies, to promote the welfare of every class of worker, and the community, and to make education a dynamic social force working for the general improvement of our whole citizenship.

Widespread realization of the critical need for trained workers led to the passage of the national vocational education act, under which local communities may draw upon the resources of three cooperating agencies, namely, the Federal board, the State boards, and the local school boards. For each of these agencies separate and distinct responsibilities, duties, and privileges are prescribed.

II. Objectives of Vocational Education

Without any thought of discounting in the slightest degree the importance and value of general education, it is believed to be important to emphasize the point that the Federal funds allotted to the States under the terms of national vocational education act are very definitely intended to be used for specific types of vocational education. In the following paragraphs, only those types of vocational education are considered which would be classified as trade or industrial education. So far as trades are concerned, vocational education is that type of education and training which has for its controlling purpose any one or more of the following objectives:

A. To assist individuals already employed in trades and in industrial occupations to add to the special knowledge and skill pertaining to their work, and thereby—
   1. Improve their prospects for steady and permanent employment or
   2. Prepare themselves for promotion or advancement

B. To prepare individuals for profitable and advantageous entrance into the mechanical trades or industrial pursuits with known marketable assets in the way of special knowledge and skill

C. To assist employed minors in adjusting themselves to their work and to the existing social order through such types of education as are properly given in the general continuation school

III. Types of Schools

Under the national vocational education act six types of trade and industrial schools or classes may be organized, as follows:

A. Evening industrial school or class

An evening industrial school or class established under the national act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade in a particular trade, supplemental to the daily employment, to persons over 16 years of age who have entered upon the employment in that trade or industrial pursuit. For example, an evening industrial school for plumbers or plumbers' apprentices could be established to give these men instruction in plumbing-shop practice; in blue print reading for plumbers; in State and local rules and regulations for plumbing installation; and in other allied subjects, all related to the plumbing trade. The instruction would be of less than college grade and would be given in the workers' leisure time.

B. Part-time trade extension schools or classes

A trade extension part-time school or class established under the national act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade to persons over 14 years of age who have entered upon the work of a trade or industrial pursuit, which instruction shall further fit persons taking it for useful employment in the trade or industrial pursuit in which they are employed. The instruction in a trade extension part-time school class must be designed to meet the needs of persons over 14 and less than 18 years of age and must be given for not less than 144 hours per year.

Thus, the plumbers' apprentices aforementioned might be given the identical instruction set forth for the evening class, and such instruction would constitute part-time work, but only in case it were given between the hours of 8 a. m. and 5 p. m., which are assumed to be the limits of the plumber's working day.

C. Part-time trade preparatory schools or classes

A trade preparatory part-time school or class established under the national act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade to persons over 14 years of age who have entered upon employment, which instruction shall be designed to fit these persons for useful employment in trade or industrial pursuit other than the one in which they are employed. The instruction in a trade preparatory part-time school or class must be designed to meet the needs of persons over 14 and less than 18 years of age, and must be given for not less than 144 hours per year.

The work already mentioned in two examples of plumber's part-time instruction might, if sufficiently elementary, be given between 8 a. m. and 5 p. m. to a group of pupils employed as messengers, clerks, soda-fountain boys, and in other occupations, excepting plumbing, the instruction being devised to prepare for entrance into the plumbing trade. Such a class would be a part-time trade preparatory class. Its work would seldom, if ever, coincide with that of a trade-extension class dealing with the same trade. The function of such instruction would be to serve as an entering wedge, to be followed later by part-time trade-extension work of the apprentice type.

D. Part-time general continuation schools or classes

A general continuation part-time school or class established under the national act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade to persons over 14 who have entered upon employment, which instruction shall be given in subjects to enlarge the civic or vocational intelligence of young workers. The instruction in a general continuation part-time school or class must be designed to meet the needs of persons over 14 and less than 18 years of age, and be given for not less than 144 hours per year.

This type of school is intended to meet the needs of employed minors who would not properly belong either in the trade extension or the trade preparatory type of part-time school. In view of the fact that the enrollment in such a school may be expected to include young workers from a great variety of occupations, the principal educational objectives are:

1. Employment adjustment
2. Vocational and educational guidance or
3. Social adjustment

Special classes for office and store workers may be established in a part-time continuation school.

E. Part-time cooperative occupational schools or classes

Many states are confronted with the problem of providing training for boys and girls, designed to fit them for useful employment, in the smaller cities and towns where the employment opportunities are so diversified and miscellaneous in character as to preclude the feasibility of establishing unit trade courses. While the general industrial type of trade training is designed to meet this situation it has been found to present many difficult problems. In some cities it is not practical to attempt to organize part-time cooperative trade courses, where there is no one dominant industry or group of closely allied industries to employ the cooperative students. Yet in such cities there are often opportunities available to place students in positions which offer real chances for training and advancement in diverse occupations. A modified form of part-time cooperative organization, which can place its students in available openings of this type, will materially contribute to meeting a real vocational training need in certain cities. In order to permit the establishment of this problem, primarily affecting the smaller cities and towns, the Federal Board has ruled that:

1. Part-time cooperative classes may be organized under the following conditions:
   a. That a qualified coordinator be employed
   b. That pupils be legally employed for at least twenty hours per week throughout the school year
   c. That one regular school period each day be provided, with the coordinator in charge, for special instruction to the group
   d. That technical related training, equivalent to at least one school period per day, be provided in the following ways: regular high school classes when such are organized; special classes organized for such training; on the job.

This is the type of vocational education carried on at Kalispell, Havre, Lewistown, Billings, and Miles City.

F. Unit trade schools or classes

A unit trade school or class established under the national act is a public school or class established and maintained in any community for the purpose of fitting persons for useful employment in a particular trade or industrial pursuit through instruction of less than college grade designed to meet the needs of persons over 14 years of age; giving not less than half of the time to practical work on a useful or productive basis; and extending over not less than 9 months (36 weeks) per year, and not less than 30 (clock) hours per week.

For instance, when a group of young men over 14 years of age not yet employed attend an all-day school or class for the purpose of preparing for entrance into the printing trade, and when the instruction given in both shop and related class work is based solely upon the printing trade needs, this constitutes a unit trade school or class.

G. General industrial schools or classes

A general industrial school or class established in accordance with the terms of the national act is a school or class under public control, established and maintained in any city or town of less than 25,000 population, for the purpose of fitting persons for useful employment in trade or industry through instruction of less than college grade designed to meet the needs of persons over 14 years of age; and giving not less than half the time to practical work on a useful or productive basis. The general industrial school is designed to meet the particular needs of cities or towns of less than 25,000 population as an alternative to the establishment of a trade school.

If the group of boys preparing in a unit trade school were living in a town of less than 25,000 inhabitants it would perhaps be difficult for the entire group after graduation to find employment on a full-time basis as plumbers, or tinners, or whatever the occupation. In this case instruction in steam-fitting and sheet-metal work might have been added to the course, to assure the opportunity to each boy of continuous employment, so as to form a general course in closely allied trades rather than in any one unit trade. Similarly, in a small town, instruction might be given to a group of boys in such allied occupations as bricklaying, plastering, and concrete work. Such a class would receive shop and related technical instruction as nearly like that of a unit trade school as possible under the conditions.

IV. Legal Provisions Applying to All Types

Schools or classes of each type specified above must fulfill certain requirements, which may be enumerated as applying generally to all forms of federally aided trade and industrial instruction. For convenience these requirements or conditions for all types of schools or classes may be listed as follows:

A. Public supervision and control

B. Plant and maintenance

C. Compliance with approved State plan, in regard to:
  1. Plant and equipment
  2. Minimum annual maintenance
  3. Courses of study
  4. Methods of instruction
  5. Qualifications of teachers

D. Reimbursement
  1. Schools meeting all requirements as provided in the State plans are eligible to share in the federal funds allotted for vocational education
  2. The reimbursement from federal funds may not exceed 50 per cent of the salaries of instructors and coordinators of qualified classes for the time actually spent in these classes

V. Credit

High school credit may be granted for these courses on the same basis as for other high school subjects

VI. Qualifications of Teachers and Coordinators

A. If high school credit is to be granted for any of the courses offered the teacher or coordinator must meet the following requirements:
  1. The instructor of technical related subjects or the coordinator of part-time classes must be a holder of a secondary state certificate and must in addition have had some experience in vocations other than teaching
  2. The teacher of Smith-Hughes shop subjects in the high school must have qualifications the equivalent to those of a teacher of other high school shop subjects and in addition must have had practical experience in the trade taught
  3. The employer who is a master of the trade in which he is engaged and who employs part-time cooperative students need not be certified if the work is in charge of a qualified coordinator
  4. Instructors in classes for which no high school credit is given must meet the qualifications as provided in the State plans, but do not need to meet the certification requirements. The instructor in shop classes must be a master in the trade taught and must have completed at least an eighth grade education. To teach technical related subjects he must have completed at least a four-year high school course and must have at least three years of practical experience in the trade. In all cases the approval of the state supervisor of trade and industrial education must be secured.

B. Further information may be had by writing to the Superintendent of Public Instruction, Helena, Montana.

VII. Bibliography

Bulletin No. 1, Statement of Policies, Government Printing Office, Washington, D. C. 20 cents per copy

Bulletin No. 17, Trade and Industrial Education; Trade and Industrial Series No. 1. Government Printing Office, Washington, D. C. 10 cents per copy

Either of the bulletins named above will contain a complete list of the publications of the Federal Board for Vocational Education

State Plans for 1932-1937, Superintendent of Public Instruction, Helena, Mont.